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GALL-STONES COINCIDENT WITH OTHER SURGICAL LESIONS *

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With the low mortality now attending abdominal operation in the hands of skilled surgeons, there can be little excuse for a failure under ordinary conditions to correct all lesions present in the abdominal cavity at the time of any primary celiotomy. Only a few years ago it appeared too hazardous to attempt more than the operation of election, leaving all subsidiary pathologic lesions either to shift for themselves or to be dealt with at a second sitting. Under these conditions the good effects of the primary operation were often overshadowed by the increasing dominance of the remaining lesions. Even more striking was the fact that the gynecologic eye in its concentration on some minor or even major pelvic disability failed to take into account coincident diseases of even greater moment than those for which the gynecologic operation was performed. Gynecologists have taught the general surgeons many lessons, but the latter have done much in return by comprehensively developing the surgery of the upper abdomen. It is impossible to concentrate one's attention solely on any one group of abdominal organs, for they are all too intimately linked together in many composite symptomatic pictures to permit accurate discrimination between one set without a survey of other cognate organs.

Thus the gynecologist has inevitably been led to the accurate investigation of kidney and vesical complaints, for the symptoms of the diseases of the pelvic organs may so closely simulate those of the bladder or kidneys, and vice versa, as to leave one quite at sea as to diagnosis unless special methods of ureteral and renal diagnosis are invoked. It is not necessary to elaborate this point, for it is too obvious to require discussion.

Formerly, we heard much of reflex disturbances in the upper abdomen from pelvic disabilities, but the physician who has the temerity to announce his pelvic findings and attempts to include in his category of reflex symptoms those of manifest organic disturbance in the stomach, gall-bladder or appendix, must run counter to rather drastic criticism. Oversights in the diagnosis of coincident diseases usually lie in the failure to take a comprehensive history. Even with our resident physicians, who have been trained in first-class medical schools, the tendency is frequently to overlook the most obvious manifestation of the diseases which do not come directly into the scope of his history pertaining to a special set of organs.

Time and time again when gall-stones have been found in former years, and to a lesser extent now, or when other upper abdominal conditions have been encountered in the course of a pelvic operation, there has been no suggestion of such in the history, and yet on questioning the patient subsequent to the operation, a very clear and often classic description has been obtained. After a general history has been taken, especially in any abdominal or gynecologic condition as a final summary, the analysis which is to be followed in the operating-room should indicate, first, the major diagnosis, and second, the lines leading to possible disabilities in other organs. Through this analytic method, an apparently subsidiary condition may assume primary importance by the time the operation is completed.

The question as to whether an appendix should be removed as a coincident part of another abdominal operation is, I believe, settled quite uniformly in all clinics, provided this organ shows any sign of distortion or inflammation, and many surgeons are accustomed to remove it as a routine measure regardless of whether it is diseased or not.

In the presence of gall-stones, this question should be even easier of settlement; for, with a more complete knowledge of the pathologic incidents and sequelæ attendant on cholelithiasis, the theory as to the innocuousness of gall-stones is being abandoned and we hear less of so-called dormant cases.

In my series of over 100 cases of cholelithiasis with operation in various hospitals coincident with some other primary lesion for which the patient was admitted to the hospital, there are only a very few in which there was not more or less direct physical disturbances, ranging from the classical attacks of colic to the less direct symptoms of indigestion, etc. Thus, in eighty-six cases now under immediate review from my service in the University Hospital, thirty-nine gave a history of unmistakable gall-stone attacks. In fourteen the patients complained of indigestion, a term which encompasses such symptoms as gaseous eructation, sour stomach, heaviness after eating, vague distress in the epigastrium, etc.; in seven there was pain in the dorsal region posterior to the gall-bladder; in two the symptoms were questionable, and in only nineteen were there no symptoms which could be attributed to the cholelithiasis. The conditions for which the primary operation were performed varied quite widely. The commonest coincidence was gall-stones and myoma uteri, there being twenty-seven such associated cases. The remainder were distributed as follows:

Retroflexion of uterus	13
Relaxed pelvic floor	9
Ovarian cyst	6
Umbilical hernia	7
Salpingitis	7
Appendicitis	4
Movable kidney	1

* Read in the Section on Obstetrics and Gynecology of the American Medical Association, at its Sixty-Third Annual Session, held at Atlantic City, June, 1912.

Uterine polyp	1
Prolapse of uterus	1
Hemorrhoids	1
Metritis	2
Pyosalpinx	1
Intestinal adhesions from former peritonitis	3

In this series there was one death from cholemia in a common-duct case coincident with a large ventral hernia. Argument against the removal of the stones as unnecessarily dangerous, therefore, in the face of the small mortality is hardly necessary to sustain the combined operation.

CONSIDERATIONS FOR AND AGAINST OPERATION

In equalizing values from the patient's standpoint, the question naturally arises, Will the patient run greater hazards from the additional operation or from the presence of the stones? General deductions, which are helpful to a correct conclusion, may be derived from a consideration of (1) the physical wear and tear to the patient of the additional operation and (2) the subsequent benefits to be derived from such a procedure. Under the added cost to the patient of the extra operation Dr. Jackson, a former student, in a study of a smaller series of our cases, has summarized our views as follows:

1. *Increased Mortality.*—Operations for simple gall-stone disease are exceedingly safe, while in advanced cases with numerous adhesions and other complications, the operation is difficult and the mortality high. For simple cholelithiasis the operation of choice, cholecystostomy, has a primary mortality in expert hands from all causes of not more than 1 per cent. When performed coincidently with other abdominal or pelvic operations, the above mortality percentage is obviously influenced only by the gravity of the primary operation. If the stones are allowed to remain in the gall-bladder and an operation has to be performed later on the common duct, a mortality must be faced of 10 per cent., for "last resort" operations must have a much higher mortality.

2. *Greater Shock.*—This, as a result of prolongation of the anesthetic and extra handling of the abdominal viscera, is a factor to be considered, but is almost negligible if the operation is carefully and speedily performed and the contra-indications noted below observed.

3. *Prolongation of the Period of Convalescence.*—It is usual for convalescence to be prolonged by a few days.

4. *Additional Pain and Discomfort.*—During the period of convalescence additional discomfort is frequent. Several of the histories in this series record more or less severe pain in the gall-bladder region during the earlier period of convalescence.

5. *Intestinal Adhesions.*—These may develop, causing symptoms of obstruction or severe colic, but it is rare for postoperative adhesions to form and persist sufficiently to cause serious trouble.

6. *Ventral Hernia.*—The small stab incision in the upper right quadrant over the gall-bladder predisposes only remotely to the formation of a hernia.

7. *Postoperative Neurosis.*—This tendency is apt to be diminished rather than increased by the removal of gall-stones found coincidently.

8. *Mucous and Biliary Fistulas.*—These are possibilities which can be avoided easily by thorough operation and good technic.

The benefits to be derived from the removal of the stones are evident, for it relieves the suffering caused by them, leads to a cure of the cholecystitis and frees the patient of the possibility of much more serious lesions in the future, which the stones are prone to cause, effecting a cure in over 95 per cent. of all cases.

The contra-indications, observed in my clinic in the University Hospital, to the usual cyclic examination of the upper abdomen are:

1. In the event of a liberation of pus in the pelvic or lower abdominal cavity, the hand should never be passed from a septic into a non-septic area.

2. When the incision is too small to admit the hand and there are no symptoms to cause suspicion of cholelithiasis, the examination of the gall-bladder is omitted.

3. When the patient is not taking the anesthetic well and a prolonged anesthetization and further manipulation of the viscera would be immediately harmful, the gall-bladder is left untouched.

In the presence of a lesion inevitably fatal, as inoperable carcinoma of the gall-bladder, etc., the stones are not removed, as the operation would only add to the immediate discomfort of the patient with no hope of any permanent good.

SUMMARY

In conclusion, I might state some of the foregoing facts worthy of special attention as follows:

1. Gall-stones give rise to symptoms in a much larger proportion of cases than is commonly supposed.

2. Many cases heretofore diagnosticated and treated as "chronic indigestion" and other vague stomach disorders are in reality cases of cholelithiasis.

3. Gall-stones are not necessarily innocuous when they are producing no symptoms, but may produce fatal lesions while their presence is unsuspected.

4. Unless contra-indicated, the gall-bladder as well as the appendix should be examined in all cases of celiotomy, and gall-stones, if present, should be removed whether they offend or not, provided the patient's local and general condition is favorable.

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ABSTRACT OF DISCUSSION

DR. CHARLES H. MAYO, Rochester, Minn.: The general upward progress during the last twenty years of the gynecologist from his lowly position has met with much opposition. Twenty years ago had he found, during the course of an abdominal operation, an appendix which needed removal, it would have been thought that he should call in a general surgeon to remove it. Now, true to his grasping disposition, he reaches clear to the top of the abdomen. This is right and, as the result, the patient to-day gets more relief because more things are done in a given case than ever before. Much of the progress of surgery has come about from the surgeon's observation through a larger incision of the actual diseased conditions. While a preoperative diagnosis of the principal condition is important, it is equally important to remember that there are other conditions which may produce almost the same symptom-complex. The abdominal incision should be made large enough to determine the condition present. In this country much of the general progress of surgery has come about through these explorations in which a certain condition demanding operation is known to exist, and by such exploration other conditions previously unknown are found to be present which can be relieved at the same time.

Last year we went over the records of 1,244 abdominal operations for uterine myomas. In over ninety of these cases we operated also for gall-stones. It is so common to take out a diseased appendix when the abdomen is open that we no longer feel it is worthy of comment. Observation has shown that some years ago one-sixth of all people operated on by the abdominal route were not relieved of their symptoms. This probably meant that they had more than one disease and that only one was relieved. The methods of shortening the round ligament internally have not been mentioned. Of course, a very large number of women have retroversion and fortunately do not know it. The knowledge that the kidney is movable gives them the idea that the kidney ought to be fixed. If they learn that the uterus is movable they think that that ought to be fixed. We often find that the retroversion is not the cause of the symptoms, but if repair be necessary, it should be by

internal methods, because the woman with retroversion may have something more the matter with her which would otherwise not be relieved.

DR. W. H. WATHEN, Louisville: If the general surgeon knew more about gynecology and the gynecologists knew more about abdominal surgery, operations in the abdominal and pelvic cavities would be more successful. No gynecologist should open the abdomen unless he is prepared not only to examine the diseased condition in any part of the abdominal cavity, but to treat it successfully. I always, unless the condition of the patient will not permit, make an incision large enough to admit my hand so as to examine all the structures within the abdominal and pelvic cavities. In operations for uterine fibroids or pelvic infections, we should examine the viscera in the upper abdomen. In operations for gastric or duodenal ulcer or gall-stones we should make an incision large enough to admit the hand into the bottom of the pelvic cavity. Any other method of treatment is false and should be condemned. We may operate for a diagnosed condition in one structure, and when the abdomen is open find a diseased condition in one or more structures that may be at once removed. Diseased organs in the pelvis may have etiologic relation to gastric and duodenal ulcer and gall-stones, just as we find association of cholelithiasis and gastric and duodenal ulcer with appendicitis. It is now generally agreed that in gall-bladder disease the infection is through the blood-current to the bile and not through the common duct from the duodenum. Therefore, there is no reason why we should not find a septic condition in the pelvis or in the appendix that may cause gall-bladder infection; also gastric and duodenal ulcer.

DR. JOHN B. DEAVER, Philadelphia: The history is most important. I insist that my house physicians shall examine the patient and record everything from head to foot. Then, when the history has been carefully digested, there is better opportunity to make the diagnosis. Dr. Clark has well laid stress on the primary condition.

I am struck with the fact that in thirty-nine of his cases there were gall-stones; also that twenty-sever occurred in connection with fibroids. I would not have been surprised if he had told me that they occurred in connection with pyosalpinx, because we know that the gall-bladder frequently becomes involved after typhoid, and why not after infection of the fallopian tubes? We know that the typhoid bacillus invades it. We know that we will get cultures of typhoid forty-one years after a gall-stone attack, and that in patients operated on for acute typhoid cholecystitis manipulation of the gall-bladder has been followed by another attack of typhoid infection.

DR. M. HOWARD FUSSELL, Philadelphia: Dr. Clark has called attention to the very absolute necessity of a diagnosis before any treatment is attempted. He secures the histories, makes physical examinations of every case and finds out whether the symptom complained of is due to a floating kidney, pyosalpinx or what not, or whether the entire symptom-complex is due to that condition, and then, finally, as all of us know who have seen his operations, when at the operation he has finished the thing presented to him, he finds out by another method of diagnosis whether there is anything else wrong. The necessity of these procedures is illustrated in a case recently under my notice. Diagnosis of gall-stones was made and the surgeon removed a small fibroid, saying that there were no gall-stones. Subsequently twenty-six gall-stones were removed, the patient having had pain all the time since.

DR. H. O. MARCY, Boston: There are three primary ways of possible infection of the internal organs in women: the uterus, appendix and passages of the gall-bladder. I would emphasize that which Dr. Deaver has said, the necessity of making a very careful study of the whole organism. Take the watch to the watch-maker and he does not look at the mainspring only. All the facts brought out in my clinic are carefully analyzed and the diagnosis is the result. I was the first in America to diagnose and operate for the removal of gall-stones; the first in the world to remove a stone from the common duct. I mention it only to tell you the storm of criticism I aroused in daring to do these operations. Those from whom I had expected support were the most bitter in declaring me rash and reckless. The whole series of results of these many years shows clearly enough that this was one of the steps of progress. The seat of abdominal disease may be covered by a hand, but the hand must be a very large one.

DR. L. C. MORRIS, Birmingham, Ala.: If you have infection anywhere in the abdomen, you are likely to have it in the gall-bladder simultaneously, because the liver throws out toxins. The chronic insidious infections of the bile-tract are commonly overlooked.

DR. PHILEMON TRUESDALE, Fall River, Mass.: An examination of my records including 1,200 laparotomies showed that in 500 cases the abdomen was opened for lesions within the female pelvis. Gall-stones as a concomitant condition were found in thirty-four of the 500 celiotomies. As an example of the importance of removing gall-stones during other operations within the abdomen, or at least recognizing their presence, I may cite the following case: About three years ago a patient consulted me in behalf of her troublesome stomach. She complained of epigastric distress, flatulence, occasional attacks of short colic, which she remembered to have awakened her in the night, and an inability to digest many articles of food, especially fats. One year before she came to me she had had a hysterectomy done by an able gynecologist. An inquiry relative to the condition of the gall-bladder at the time of the hysterectomy brought out the statement that the hysterectomy *per se* was considered a serious operation, and no examination of the gall-bladder was attempted. The patient continues to suffer because of the diseased gall-bladder, and is unwilling to submit to another procedure, believing that the cause of her symptoms might again be overlooked.

The gynecologist who invades the upper abdomen should adopt early the methods of dealing with the diseased gall-bladder which are generally practiced by abdominal surgeons. While the operation of cholecystostomy through a small counter-incision will answer for most cases, the conditions which demand cholecystectomy should always be remembered, and patients will thus often be spared troublesome sinuses, as well as secondary—and, one might add, unnecessary—operations.

DR. ARTHUR E. BENJAMIN, Minneapolis: Every case in which a laparotomy is done should be carefully examined in general to ascertain exactly what conditions are to be dealt with. My idea is to investigate every organ and then attack the one really causing the trouble. Many cases are neglected by being turned over to the junior intern when they should be taken charge of by the surgeon himself. We are all endeavoring to operate on too many patients. Our statistics of 10,000 or 15,000 in so many years is leading many of us into trouble. I think that if we will pay particular attention to the histories we shall make fewer mistakes.

DR. JOHN CLARK, Philadelphia: Dr. Deaver has brought up the relationship of pyosalpinx and gall-stones. When we have pyosalpinx we do not examine the gall-bladder.

The Cost of Caring for the Insane.—It costs a little over thirty-two million dollars a year to care for the patients suffering from mental diseases in the public institutions in the United States. This is equal to or even somewhat greater than the annual expenditure for the construction of the Panama Canal. The amount expended in 1910 for the care of the insane in public institutions exceeded the amount appropriated by Congress for the support of the executive, legislative and judicial departments of the federal government. To this great sum must be added the economic loss to the country through the withdrawal from productive labor of so many people in the prime of life. It has been ascertained that the average value to the community of an adult between the ages of 18 and 45 is $700 a year. On this basis the economic loss to the country through insanity is over one hundred and thirty million dollars a year, which amount taken together with the annual institutional cost is more than one hundred and sixty-four million dollars—a sum equaling the entire annual value of the wheat, corn, tobacco and dairy and beef products exported from the United States. —*The Outlook.*

SPOROTRICHOSIS IN MAN

WITH A SUMMARY OF THE CASES REPORTED IN THE UNITED STATES AND A CONSIDERATION OF THE CLINICAL VARIETIES AND THE IMPORTANT FACTORS IN THE DIFFERENTIAL DIAGNOSIS*

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Following the publication by Hektoen and Perkins[1] of a report of the second authentic case of sporotrichosis in the United States in 1900, four years elapsed before the third American case was reported. In contrast to the infrequent finding of the disease in this country is the striking rapid accumulation of cases in Europe which followed Beurmann's original report from Paris in 1903. Up to the present more than 200 cases have been put on record from all over the civilized world. As a result there has accumulated a growing mass of pathologic and clinical data, facts which show, among other things, that sporotrichosis is not alone a local skin disease, but under certain conditions becomes a generalized systemic infection similar to the other granulomas. These reports contain examples of the localization of

Fig. 1.—Appearance of leg on entrance into hospital, Jan. 31, 1911, four months after initial lesion.

Fig. 2.—Appearance of leg Feb. 20, 1911, fourteen days after curettement and carbolizing with 95 per cent. phenol.

the *Sporotrichium* in muscles, joints, bones, kidney, lung, etc., the organism being recovered from the blood-stream by the usual methods of blood culture.

It would seem highly probable, therefore, that sporotrichosis is a wide-spread prevalent disease, particularly in the country and farming districts, and that many unhealed chronic ulcerative processes now passing under the caption tuberculosis, syphilis, glanders, blastomycosis, actinomycosis, etc., are in fact unrecognized sporotrichosis.

In the belief that with greater familiarity with the clinical picture will come earlier and more general recognition of the disease, I present this paper; for it is my conviction that the history of the development of sporotrichosis will parallel that of actinomycosis and blastomycosis as soon as the attention of the profession, particularly those practicing in the farming districts, is directed to the infection. In this connection it is interesting to note that in 1910, following R. L. Sutton's report[2] from Kansas, eleven cases, or nearly one-third of all those reported in this country, were published from the same state during the succeeding twelve months.

REPORT OF A NEW CASE OF SPOROTRICHOSIS

History.—In January, 1910, C. A., aged 28, a native of Wisconsin, journeyed to Cresbard, S. D., to engage in farming. In October of the same year, after nine months' residence in the state, he noticed a small "pimple" on the calf of his right leg. He remembered no preceding trauma and believed there had been none. He described the lesion as a small, firm nodule about the size of a split pea, lying beneath the skin surface. In the course of the following week two similar nodes appeared immediately above the first. These small tumors gradually became harder and larger and ultimately—in six or eight weeks—softened and broke down, discharging a small quantity of viscid, bloody pus.

On consulting his physician, he was told he had probably contracted glanders, although as far as could be ascertained there was no evidence of this disease among the horses on his farm.

Within the succeeding few weeks several more nodules, exactly similar in character and in a direct line above the

Fig. 3.—Appearance of leg on leaving hospital, March 6, 1911, after one month of local surgical dressing.

Fig. 4.—Appearance of leg March 18, 1911, after six weeks of local surgical dressing.

others, appeared; on the advice of his physician he returned to Wisconsin to seek further medical aid. During December and January the disease gradually traveled up the leg, along the inner aspect of the thigh in a line corresponding to the course of the deep lymphatics, the nodules beginning deep in the subcutaneous tissues, becoming larger and softer as they approached the skin surface and then breaking down to form deep necrotic foul-looking ulcers. There were no subjective pain, little if any tenderness to pressure, no febrile reaction and no constitutional disturbance.

Examination.—In January, 1911, the State Hygienic Laboratory of the University of Wisconsin secured some pus from a freshly formed ulcer, and subjected it to the usual bacteriologic examinations, including the injection of a portion into the peritoneal cavity of a male guinea-pig. The results of this examination were completely negative for all organisms, in spite of which, however, a probable diagnosis of glanders was made. Sporotrichosis was not considered.

The patient entered the service of Dr. Bevan at the Presbyterian Hospital, January 31. The appearance of the leg at that time is best given in the words of the hospital history. "On the posterior surface of the calf of the leg (right) beginning about half way between the ankle and knee and running upward, are a series of slightly elevated, sharply defined, deep

* From the surgical service of Dr. Arthur Dean Bevan and the Morris Institute for Medical Research.

* Preliminary report read before the American Association of Pathologists and Bacteriologists, Chicago, April 13, 1911.

red areas, about the size of a dollar. These bleed readily when injured. On the posterior side of the knee just over the tendons of the semimembranosus and semitendinosus muscles are two or three nodules which are not so large as those mentioned above but are more elevated or dome shaped. From these a bloody serum is discharging. Farther up on the inner anterior part of the thigh are three nodules which can be felt under the skin as hard lumps the size of hickory nuts. In all there are nine nodules making a straight series from the middle of the calf running toward the groin" (Fig. 1).

On entrance, his appearance was that of a robust, well-developed, well-nourished young man. Except for the leg lesions there was no evidence of organic disease. His temperature was 98 F.; leukocytes 8,900; hemoglobin 84 per cent. (Dare); urine negative. He complained of slight tenderness on pressure over the lesions on his leg, but of no subjective pain. He was isolated and placed under infectious precautions.

February 2, Dr. Bevan incised one of the unopened nodules, allowing a small quantity of greenish-gray, blood-streaked, slightly viscid pus to escape. Cultures and smears were prepared, and a portion of the pus obtained in an aspirating syringe for animal inoculation. The smears stained with methylene-blue, Gram and carbol-thionin showed many pus cells but no organisms of any kind. The culture tubes at the end of the fourth day appeared sterile. Subcutaneous and intraperitoneal injections of the pus into male guinea-pigs produced no orchitis. At this time the probable clinical diagnosis of sporotrichosis was made.

Fig. 5. Seven-day growth on 2 per cent. glucose agar.

Fig. 6. Sixteen-day growth on ½ per cent. glucose agar.

Fig. 7. Litmus glucose agar; sixteenth day; room temperature.

Fig. 8. Sixteen-day growth on blood agar showing pigment.

February 6, the two upper nodules were dissected out under ether anesthesia. The nodules which had broken down were carefully curetted and cauterized with 95 per cent. phenol (carbolic acid) followed by alcohol (Fig. 2). Fresh culture mediums, including glucose and blood-agar, were inoculated and placed at 37 C. (98.6 F.) and a duplicate set of tubes inoculated and placed at room temperature. February 10 an agar-slant tube of the first series, eight days after inoculation, showed a single, small, slightly elevated, gray-white colony, which on examination proved to be a pure culture of sporothrix.

The patient remained in the hospital until March 6, during which time the curetted and phenolized areas under dry iodoform dressing became covered with granulation tissue and gradually healed (Fig. 3). March 18 he returned to the hospital for examination. The areas were covered with newly formed scar tissue and crusts, underneath which were some bluish discoloration and induration (Fig. 4). The patient was placed on potassium iodid for the first time, 10 grains three times daily.

Subcultures were made of the growth which had subsequently appeared on the second series of tubes in pure culture, white rats and guinea-pigs were inoculated and the organisms studied in more detail at the Morris Institute.

The laboratory study of the organism showed it to be identical with the sporothrix described first by Schenck[3] in 1898, by Hektoen and Perkins[2] in 1900, and by Hyde and Davis[4] in 1910, its cultural characteristics, morphology, results of animal inoculation, etc., agreeing closely with the excellent description in the report of Hyde and Davis.

GROWTH AND CULTURAL CHARACTERISTICS

The first growth of the organism was exceedingly slow, eight days elapsing after inoculation of the culture tubes before the first small gray-white colony appeared on the plain agar-slant in the incubator. The growth of the second and third generations, following transfers to fresh mediums, appeared within from forty-eight to seventy-two hours. The importance of this slow initial growth should be emphasized, as it shows the need for repeated observations of the culture tubes for a considerable period of time, in order that the slow-appearing colonies might not be overlooked. Had this been done in this case when cultures were first made, it is probable that the diagnosis would have been made months earlier, thereby saving the patient useless worry and expense.

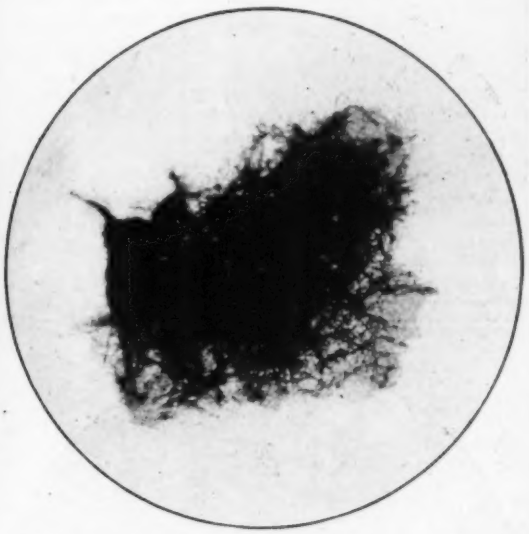

Fig. 9.—Four-day-old colony in plain bouillon; methylene-blue; low power.

Growth was abundant on all mediums after the organism had been under cultivation for some time, but particularly so in mediums containing sugar. In testing out various mediums, it was found that the organism grew best and with equal vigor on 2 per cent. glucose, levulose and maltose agar, less luxuriously on lactose and saccharose agar, and poorly or not at all on mannite and inulin agar. The small gray colonies rapidly germinate and coalesce to form a slightly elevated pale gray layer, which later becomes corrugated with a sticky, moist-appearing surface resembling soft putty (Figs. 5 and 6). In the stab cultures this central coral-like mass becomes surrounded with fine needle-like radiating lines on the surface of the mediums (Fig. 7).

In liquid mediums, growth was readily obtained in plain broth of an acidity of 1 per cent. and in so called "whey" mediums of an acidity of 0.5 per cent., as a delicate downy growth at the bottom of the tube.

Pigment Formation.—In certain of the older cultures, and particularly in cultures on blood agar and in glucose agar containing from 3.5 to 4 per cent. glucose, a brownish-black pigment appeared, as has been noted by Davis and others (Fig. 8).

Morphology.—The organism consists of an abundant branching septate mycelium with clusters of pear-shaped spores within the meshes of the interlacing filaments (Fig. 9). A single colony of mycelium fished out of a broth-culture, mounted and stained with methylene-blue, suggests somewhat the contour of a crushed granule of actinomyces (Fig. 10). The detail of the periphery of such a mycelial colony shows the typical branching filaments with occasional clinging spores (Fig. 11). With the oil-immersion lens, the refractive borders and septa of the filaments may readily be seen (Fig. 12).

The oval, pear-shaped spores are typical of sporothrix, the protoplasm staining for the most part evenly with Gram, although some spores contain clear unstained apices which Davis thought resembled vacuoles (Fig. 13). Mycelial production was more abundant in broth and in 4 per cent. glucose agar; spore formation in 2 per cent. glucose agar.

Histology.—Microscopic section of the excised nodules showed a chronic inflammatory tissue consisting of round and epithelioid cells with occasional plasma cells. One portion contained a considerable number of large giant-cells with nuclei arranged at the periphery. In the center of two giant-cells was a short, poorly stained oblong rod resembling a thick, short bacillus. These are probably modified tissue forms of the organism as described by Beurmann and Gougerot.

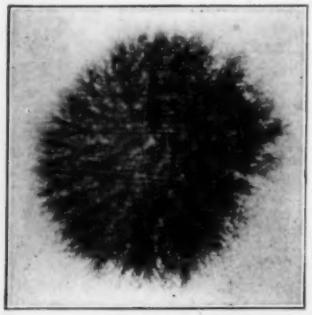

Fig. 10.—Four-day-old colony in plain bouillon; methylene-blue; low power; showing similarity to actinomyces.

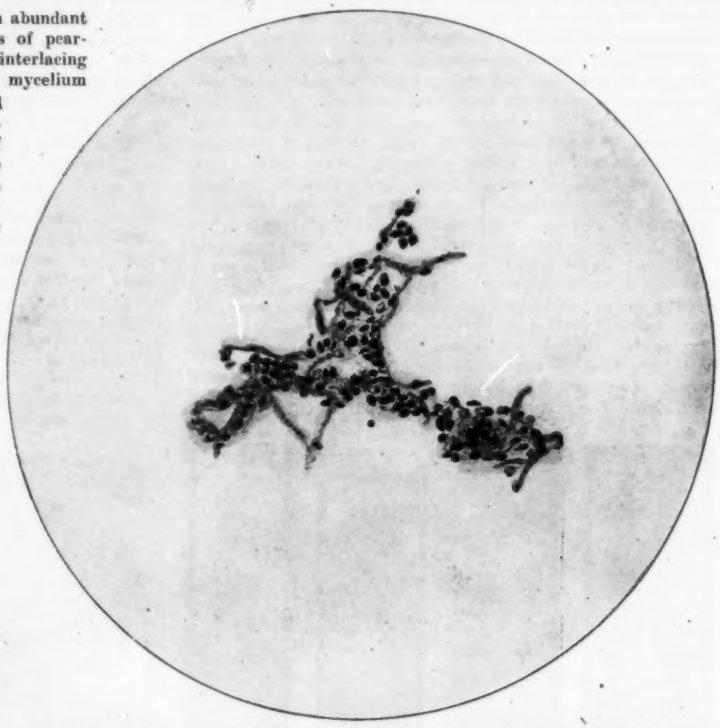

Fig. 13.—Three-day growth on 2 per cent. glucose agar; Gram; oil immersion.

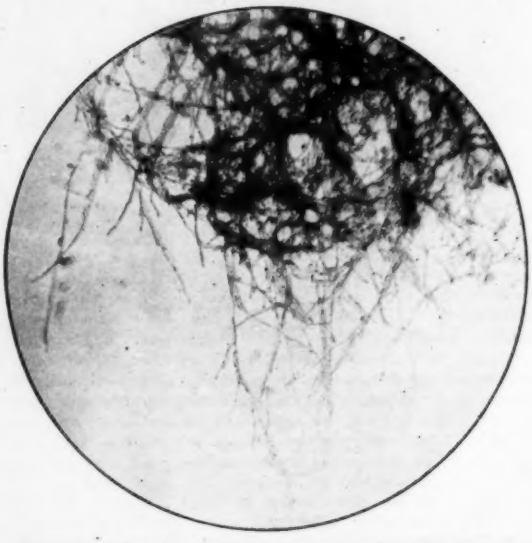

Fig. 11.—Four-day-old colony in plain bouillon; methylene-blue; high power; detail of periphery, showing branching, mycelium and spores.

Fig. 12.—Four-day-old colony in plain bouillon; methylene-blue; oil immersion; showing septa in mycelium.

Another area of the section contained a considerable number of eosinophils. I could find no reference in the American literature to a similar finding nor in the recently published monograph by Beurmann and Gougerot.[5] However, de Massary, Doury and Monier-Vinard[6] described in 1907 an infiltration of polynuclear eosinophilic leukocytes in the periphery of a sporothrix nodule.

Animal Experiments.—Pure cultures of sporothrix inoculated intraperitoneally into white rats and guinea-pigs produced in some instances small subcutaneous abscesses about the point of injection and multiple abscesses in the parietal and visceral peritoneum and in the liver and spleen. Smears from these abscesses showed many spores, some apparently within the leukocytes, but no budding forms or myceliums. In tissue sections, oval spores were found in large numbers within and between the fixed tissue cells. No giant-cells were found. Numerous eosinophils were present.

SPOROTRICHOSIS IN AMERICA

As the result of a rather careful search through the American literature, I have found that twenty-eight cases (including the present one) of undoubted sporotrichosis (as proved by positive cultures of the organism) have been reported during the thirteen years following Schenck's original publication. In addition, I have collected thirty cases of highly probable sporotrichosis, cases clinically identical with the twenty-eight positive cases, but without positive cultures. The first group of cases is tabulated in Table 1, the second in Table 2.

A summary of the findings in these cases is as follows:

Geographic Distribution.—Fourteen states are represented* from various localities in the United States, divided as follows: North Dakota twenty-two cases; Kansas, thirteen; Nebraska, five; Illinois, two; Missouri, three; New York, two; Minnesota, two; California, one; Iowa, one; Indiana, one; New Jersey, one; South Dakota, three; Montana, one; Wisconsin, one; total, fifty-eight cases.

* This probably does not indicate the relative frequency of the disease, for, as already mentioned, eleven of the twelve Kansas cases were reported in the twelve months immediately following the report of the first Kansas case by Sutton.

TABLE 1.—DIAGNOSIS BY CULTURES

Case	Author	Year	Location	Patient			Primary Infection	Nature of Trauma
				Sex	Age	Occupation		
1	Schenck[3]	1898	St. Louis.	M.	36	Ironworker.	Index-finger of right hand.	Nail on keg of red lead.
2	Hektoen and Perkins[1]	1900	Shenandoah, Iowa.	M.	5	.....	Left index-finger.	Blow by hammer.
3	Quain[28]	1904	North Dakota.	F.	35	.....	Inner side leg.	
4	Burlew[13]	1909	San Juan Capistrano, Cal.	M.	..	Farm hand	Left cheek a. l ant. surface right leg.	
5	Trimble and Shaw[14]..	1909	Kansas.	..	..	Report not available.	.....	
6	R. L. Sutton[2].....	1910	Ottawa, Kan.	F.	30	Housewife.	Ball of right thumb.	
7	Hyde and Davis[4]....	1910	North Dakota.	M.	24	Farmer.	Back of left hand.	
8	Zuraski[15]	1910	Chicago.	M.	25	Packer for express company.	.....	
9	R. L. Sutton[13]..... (Wood)	1910	Independence, Mo.	F.	18	Farmer's daughter.	Back of right hand.	Feeding kaffir corn to dog.
10	Gifford[27]	1910	Omaha, Neb.	F.	..	.....	Eyelids.	
11	J. M. Sutton[16]..... (First case)	1911	Halstead, Kan.	M.	52	Laborer.	Palm of left hand.	Puncture wound by small nail.
12	J. M. Sutton[16]..... (Second case)	1911	Halstead, Kan.	M.	40	Farmer.	Index-finger of right hand.	Disk harrow.
13	J. M. Sutton[16]..... (Third case)	1911	Halstead, Kan.	M.	36	Farmer.	Second phalanx of thumb.	Cut.
14	J. M. Sutton[16]..... (Fourth case)	1911	Halstead, Kan.	M.	28	Farmer.	Pimple opened with pin.	
15	Ruediger and Miller[28]	1911	North Dakota.	M.	45	Farm laborer.	Middle finger of left hand.	
16	R. L. Sutton[12]..... (Ashley)	1911	Earlton, Kan.	M.	44	Farmer.	Right wrist.	Piece of baling wire.
17	Hamburger ..... (Bevan)	1911	South Dakota.	M.	28	Farmer.	Calf right leg.	
18	Turrell[29]	1911	Smithtown Branch, N. Y.	M.	12	Inmate children's home.	Top of great toe.	
19	Turrell[29]	1911	Smithtown Branch, N. Y.	M.	..	.....	Back of hand.	
20	Ruediger[30] ..... (Altnow)	1912	Morton County, N. Dak.	F.	20	.....	Pimple on elbow.	
21	Ruediger[30] ..... (Newlove)	1912	McHenry County, N. Dak.	M.	32	.....	Hand.	
22	Ruediger[30] ..... (Johnson)	1912	Poplar, Mont.	M.	41	Farmer.	Tip of index-finger.	
23	Ruediger and Smith[31]	1912	North Dakota.	F.	3½	.....	Index-finger left hand.	Cut.
24	Armstrong[32]	1912	St. Paul.	M.	50	Handler of green hides.	Pimple back of right hand.	
25	Thabes[30]	1912	Frazee, Minn.	M.	50	Woodman.	Back of hand.	
26	Adams[33]	1912	South Dakota.	M.	27	Farmer.	Index-finger.	
27	Foster and Thearle[34].	1912	Fort Leavenworth, Kan.	M.	..	U. S. Army.	.....	
28	Olson[35]	1912	Tuppen, N. Dak.	M.	19	Farm laborer.	Pimple back of hand.	Probable infection from gophers.

Sex.—In the reports in which sex is mentioned, there were thirty-two males and twenty-one females.

Age.—All ages are represented, the youngest patient being 3 years, the oldest 70; twenty-seven cases occurred in persons between the ages of 15 and 45.

Occupation.—Infections occurred in farmers and farmers' children fifteen times; in florists two times; once each in an iron-worker, a berry-picker, an express-company packer, a laborer, a housewife, a school-teacher, a potato-peeler, a woodman and a soldier.

Seat of Primary Infection.—Back of hand five times; index-finger four times; palm of hand twice; thumb twice; once each in wrist, arm, thigh, anterior surface of leg, knee and calf.

Trauma.—Occurrence of preceding trauma is mentioned nine times; no history of trauma in nine cases; of the nine cases mentioning trauma, two were caused by nails; two by wire; one each by hen bite, blow by hammer, disk harrow and knife.

Duration of Disease.—From three weeks to eighteen months.

There has been no case of systemic sporotrichosis reported in this country, so far as I am aware.

CLINICAL VARIETIES

The classification of the clinical varieties is that given by Beurmann:[7]

1. Localized sporotrichosis with sporotrichotic chancre and ascending lymphangitis and local lymphadenitis (present case).

2. Disseminated gummatous sporotrichosis; multiple subcutaneous nodules distributed without systematic arrangement throughout the body; early small hard painless round masses; late small and large soft cold abscesses. *No ulceration.*

3. Disseminated ulcerative sporotrichosis; multiple polymorphic ulcerations of the nature of tuberculous, syphilitic, ecthymatous, rupial or furuncular lesions or a mixture of these.

4. Extracutaneous sporotrichosis, with localization in mucous membranes, muscles, bones, joints, ocular tissues, synovial membranes, kidney (one case) and lungs (two cases).

DIAGNOSIS

The features which are helpful in the differential diagnosis of sporotrichosis may be grouped as follows:

TABLE 2.—DIAGNOSIS BY CLINICAL FINDINGS

Case	Author	Year	Location	Patient			Primary Infection	Nature of Trauma
				Sex	Age	Occupation		
1	Brayton[19]	1900	Indianapolis.	M.	30	Florist.	Index-finger left hand.	Wire prick.
2	Quain[20]	1904	Bismarck, N. Dak.	F.	..	.....	Dorsum of hand.	Bruise.
3	Quain[20]	1904	Bismarck, N. Dak.	F.	18	School-teacher.	Left thumb.	Cut.
4	Quain[20]	1904	Bismarck, N. Dak.	F.	40	.....	Back of left hand.	
5	Quain[20]	1904	Bismarck, N. Dak.	M.	70	.....	.....	
6	Quain[20]	1904	Bismarck, N. Dak.	F.	48	.....	Right forearm.	Bruise.
7	Quain[20]	1904	Bismarck, N. Dak.	F.	3	Granddaughter of patient No. 6.	Wrist.	Scratch bandaged with sporothrix-infected dressings.
8	Quain[20]	1904	Bismarck, N. Dak.	..	..	.....	Forearm and arm.	
9	Stickney[26]	1905	Dickinson, N. Dak.	..	..	.....	Hand and forearm.	
10	Stickney[26]	1905	Dickinson, N. Dak.	..	..	.....	Arm and upper arm.	
11	Stickney[26]	1907	Dickinson, N. Dak.	..	..	.....	Right shoulder, left neck and face.	
12	Stelwagon[29] (Stout)	1910	New Jersey.	F.	67	Berry picker.	Palm of left hand.	
13	Pusey[21]	1910	Chicago.	F.	..	Florist.	Arm.	
14	R. L. Sutton[12] (Chadwick)	1910	Tyro, Kan.	M.	11	Farmer's boy.	Back of right hand.	Hen bite.
15	R. L. Sutton[12]	1910	Highpoint, Mo.	F.	16	.....	Index-finger.	Kraut-cutter.
16	Gifford[27]	1910	Omaha, Neb.	F.	14	.....	Right lower eyelid.	
17	Gifford[27]	1910	Omaha, Neb.	M.	10	.....	Left lower eyelid.	
18	Gifford[27]	1910	Omaha, Neb.	F.	32	.....	Left lower eyelid.	
19	Gifford[27]	1910	Omaha, Neb.	M.	4½	.....	Right lower eyelid.	
20	Gifford[27]	1910	South Dakota.	F.	4	.....	Right lower eyelid.	
21	Barker[22]	1911	Horton, Kan.	M.	5	Farmer's son.	Back of right hand.	Scratch.
22	Beam[23]	1911	Wilsey, Kan.	M.	17	Farmer's son.	Left knee.	Indolent ulcer opened with needle.
23	Steward[24]	1911	Denison, Kan.	F.	42	.....	Inner surface right thigh.	
24	Henderson[25]	1911	Erie, Kan.	M.	19	Farmer.	Dorsum left hand.	Pimple opened with pin.
25	Ritchie[27]	1911	Wisconsin.	F.	..	Potato peeler.	Middle finger.	Knife cut.
26	Hanson[30]	1912	Charlson, N. Dak.	M.	4	.....	Back of hand.	Scratch.
27	Hanson[30]	1912	Charlson, N. Dak.	M.	48	.....	Pimple dorsum right hand.	
28	Hanson[30]	1912	Charlson, N. Dak.	M.	7	.....	Back of hand.	
29	Ruediger[30] (Johns)	1912	Adams County, N. Dak.	F.	42	.....	Pimple inner surface forearm.	
30	Ruediger and Smith[31]	1912	Bismarck, N. Dak.	F.	43	.....	Pimple back of hand.	

Clinical.—The occurrence in men between the ages of 15 and 45, in the country and farming districts (but also in the cities).

The occurrence in farmers, fruit and vegetable dealers, berry-pickers, florists, etc.

A history of preceding trauma by nails, wire, knife, hammer, bite of animals (rat, hen), pin-prick, etc.

The slow period of incubation, following the initial trauma; the insidious onset and slowly progressing course; the slow ascending infection following the course of the deep lymphatics.

The production of characteristic small, round, hard, subcutaneous nodules, and their uniform evolution into softened cold abscesses or cutaneous ulcers.

The long-drawn-out clinical course of the disease, with little or no pain or temperature and little or no effect on the general health.

Laboratory.—The local and general eosinophilia. The presence of eosinophils in the nodules has already been mentioned. In addition, eosinophils have been noted in the initial chancre,[8] in the pus from the broken-down nodules[9] and in the circulating blood of experimental animals,[10] as well as clinically.[11] It will be of great clinical interest, therefore, to see whether more extended observations will show the eosinophilia in sporotrichosis to be of diagnostic importance.

The cultivation of the organism on artificial mediums, the growth of *Sporotrichium* being characterized by its slow initial appearance; its ready growth on 2 per cent. glucose agar at room or incubator temperature; its raised corrugated appearance on slant agar and its radiating, flower-like appearance in stab culture; its brownish-black pigment production in old cultures and on 4 per cent. glucose agar; its branching septate mycelium and pear-shaped spores.

TREATMENT

Treatment is well summed up in Beurmann's words, as follows: "Potassium iodid should be administered internally in increasing doses as high as 6 gm. a day and even more, and the local lesions should be dressed with a weak iodi-iodid solution: water, 500 gm.; potassium iodid, 10 gm.; iodin, 1 gm. Finally, the ulcerated points should be cauterized with tincture of iodin. The prolongation of general treatment for a month after complete, apparent recovery is indispensable to prevent relapse and recurrences."

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THE APPLICATION OF CONSERVATIVE SURGERY TO OVARIAN DERMOIDS

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The case which prompted this investigation occurred in the practice of Dr. Edward Reynolds of Boston, during my service as assistant to him, and I am indebted to him for permission to report it, and for the first suggestion of the interest and importance of the subject.

A young woman, with excellent history and in good general health, the mother of one child, came to operation for the repair of a lacerated cervix and perineum, and the correction of certain ovarian abnormalities which had become evident on examination. The ovaries were both found to be somewhat enlarged, and each contained a small dermoid cyst, apparently of the usual type. In addition, there were several small serous cysts. As the patient was extremely anxious that the ovarian function be retained, both dermoids were excised, the serous cysts were evacuated, and their linings removed. This procedure left an ample amount of apparently normal ovarian tissue on the left side, and somewhat less on the right. Convalescence was uneventful.

A pathologic report on the dermoids stated that they were not free from the suspicion of malignancy, as the cells were somewhat too numerous, and showed a tendency to atypical arrangement. After consultation with the patient and her husband (a physician), it was their choice to take the possible risk involved in delay, rather than to submit to another immediate operation which would necessitate a perhaps unjustified sterilization.

About ten months later, she was obliged to submit to a second operation on the discovery of a second enlargement of the right ovary. This was done in another city; but her husband subsequently reported that the tumor was a simple dermoid.

The question of the possibilities of malignancy in ovarian dermoids was naturally considered immediately after the first operation, but a hurried search of the literature of both text-books and journals failed to throw any considerable light on the subject. A more complete and thorough investigation of the available facts forms the basis of this article.

The coexistence of pregnancy and ovarian dermoids is sufficiently common to permit the definite assertion that an ovary which is the seat of one or more of these tumors is usually capable of performing its share in the reproductive function. Bland-Sutton[1] mentions two cases of double ovariotomy for dermoids during pregnancy. In one of these cases, normal ovarian tissue was not detected in either ovary after microscopic investigation. In determining the advisability of conservation in these cases, we have then to deal with the possibilities

1. Bland-Sutton: Surgical Diseases of the Ovaries and Fallopian Tubes.

of recurrence, extension and metastasis which they present.

It is generally accepted that the ovarian dermoid is to be sharply differentiated from the dermoid tumors occurring in other organs, in that it arises, not from the ectoderm alone, but from all three germinal layers (Wilms, quoted by Neumann[2]). From this the further deduction can be made that they are to be considered as a one-sided development of a teratoma (Dr. James Ewing—personal communication), and that the true dermoid bears to the teratoma the same relation that an adenoma bears to a carcinoma, or a fibroma to a sarcoma (Pfannenstiel[3]). The latter authority goes on to state that the same gradations occur between the dermoid and teratoma as exist between adenoma and carcinoma, or between fibroma and sarcoma.

If these parallels are accepted, it is evident that the true, simple dermoid represents the benign manifestation of the same neoplastic process, the malignant phase of which is the complex teratoma. Undoubtedly the simple dermoid is a benign growth in itself (Ewing, Askanazy,[4] Bland-Sutton,[5] Pfannenstiel[3]), but there is the possibility of inherent malignancy in atypical dermoids which approach the teratoma type. The teratoma itself is usually possessed of varying degrees of inherent malignancy, both as to its tendency to invade surrounding structures and to metastasis, as well as to its clinical picture (cachexia, etc. Pfannenstiel[3]).

Frank,[6] in a discussion of ovarian teratomas, gives the following basis for gross and histologic differentiation:

SIMPLE DERMOID	TERATOMA
1. Cystic, but may show projections of cyst wall.	1. Solid, though riddled with small cysts.
2. Well-defined arrangement of fetal layers.	2. Atypical arrangement of fetal layers (von Rindfleisch—a histologic potpourri).
3. Structures attain high development; i. e. late fetal or adult period.	3. Tissues rarely advance beyond early embryonal stage.

The last point of differentiation made is open to the criticism that certain contents (notably teeth) of undoubted teratomas are found to be fully formed and very similar to the corresponding structures in the adult.

Another phase of this question must be considered. True dermoids, benign in themselves, are subject to:

Primary malignant degeneration.
Secondary malignant implantation.
Coexistence with, but independence from, malignant tumors of the same ovary.

The most complete discussion of this subject is by Neumann,[2] in 1899. He covers the literature up to that time, and deals with both dermoids and teratomas which present carcinomatous or sarcomatous cells. I have collected the reports of cases from then on, taking only those dealing with simple dermoids. In many of the cases, the line between dermoids and teratomas has been difficult to draw, as many writers seem to use the terms interchangeably. This fact, in connection with the objection that Neumann's classification may be somewhat antiquated, will tend to lessen the value of this summary as an accurate pathologic survey of the cases, but from the clinical point of view, I feel that it will be of some service.

SUMMARY OF REPORTED CASES OF MALIGNANT TUMORS COMPLICATING OVARIAN DERMOIDS

1. Dermoids undergoing primary malignant degeneration:

A. Carcinomatous.

Recorded by both Neumann[2] and Tauffer,[7] including Tauffer's own case	5
Recorded by both Neumann[2] and Yamagiva,[8] including Yamagiva's own cases (two)	2
Recorded by Neumann,[2] other than above	6
Reported by Norris,[9] own case	1
Recorded by Ludwig,[10] including own case	5
Recorded by Pölzl,[11] including own case	6
Recorded by Clark,[12] including own case	3
Reported by Menestrina,[13] own case	1
Reported by Shoemaker,[14] own case	1
	30

B. Sarcomatous.

Recorded by Neumann,[2] including own case	7
Reported by Lorrain,[15] own case	1
Recorded by Shoemaker,[14] including own case	2
Reported by Amann,[16] own case, melanotic sarcoma	1
	11

2. Dermoids showing combination with other malignant tumors:

A. Carcinoma.

Recorded by Neumann[2]	3
Reported by Brettauer,[17] own case (cancer growth noted as being entirely distinct from dermoid)	1
Reported by Benjamin,[18] own case	1
	5

B. Sarcoma.

Recorded by Neumann[2]	2

C. Endothelioma.

Recorded by Neumann[2]	1
Total	49

To the above may possibly be added one case (Bierman's), classified by Neumann[2] as a teratoma, but which is accepted by Tauffer,[7] and Clark,[12] as a dermoid undergoing primary carcinomatous degeneration, and four cases which Neumann[2] mentions but does not classify.

The incomplete data on most of the cases give little to work on in any attempt to classify them as to etiology, etc. Both married and unmarried women appear in the list, and the number of pregnancies has no apparent influence. Practically the only conclusions which can be fairly drawn point to this complication of ovarian dermoids as a rare occurrence, but one which still

2. Neumann: Dermoidcyste eines überzähligen Eierstockes mit maligner (peritbellar) Degeneration der Cystenwand, Arch. f. Gynäk., 1899, lviii, 185.
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further emphasizes the necessity of submitting these tumors to careful microscopic analysis in every case.

Still another characteristic of the ovarian dermoid demands attention in a discussion of possible malignancy, and that is the occurrence of "peritoneal metastases." This condition is one in which the peritoneum is dotted with minute knots, each furnished with a small tuft of hair. Bland-Sutton[9] applies the term "epithelial infection" to this process, and does not seem to consider it an indication of malignancy. The subsequent course of the majority of these lesions seems to bear out his theory, as many of them are found, on examination, to be dead or dying.

Randall[10] believes that there is an element of traumatism in the etiology of this process, and he distinguishes between slow leakage of the contents of the dermoid, and the entrance into the peritoneal cavity of the contents of the cyst in bulk. In the former case, the result is that small collections of cells are widely distributed over the peritoneal surface, and delicate adhesions are formed, while in the latter instance dense bands and adhesions are formed everywhere. He describes a case and reports several others. His own case is one in which the peritoneum was found studded with firm, whitish nodules, varying in size from a mustard-seed to a pea. These, as well as the original dermoid, were removed so far as possible. Thirteen months later, the patient was taken with neuralgia, vomiting and right hemiplegia, and died in two days. No autopsy was obtainable. The abdomen was negative during the latter illness.

Pfannenstiel[8] holds that this process should be considered as a phase of malignancy, and it would seem fair to venture the statement (based on the description of the original tumors in the reported cases), that this complication is one occurring chiefly in the tumors of the type bordering on the teratoma.

I would offer the conclusion that primary conservation of the ovary, if technically possible and otherwise desirable, is the operation of choice in dealing with ovarian dermoids which give no evidence of malignancy in the gross or on the immediate examination of a frozen section. The excised tissue should invariably be examined subsequently with the utmost detail for microscopic evidence of the threefold possibilities of malignancy, each of which, fortunately, is rare. In young women, a radical operation is imperative only if demanded by positive pathologic findings.

19. Randall: Ovarian Dermoid with Secondary Cysts Connected with the Omentum. Proc. Roy. Soc. Med., 1908, 1. Part 2.

BILATERAL FIBROMATOSIS OF OVARIES, WITH OSSIFICATION OF OVARIAN FIBROMA *

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If one excludes certain varieties of teratoma, true osseous tumors of the ovary are exceedingly rare. In a recent communication, Pozzi and Bender[1] critically review the somewhat meager literature on the subject, and report two new examples of the disorder. According to Williams[2] the case described by Le Clerc de Beaucoudray[3] in 1760, was probably the first authentic instance of this condition ever recorded.

Pozzi and Bender express the opinion that the vast majority of cases reported as examples of ossification of the ovary, or ovary and tube, are in reality, either teratomas with bone admixture, or simple calcareous degeneration of the usual anatomic structures, with or without associated tubo-ovarian fibromatosis.

The following case of ossification of the ovary, which was recently under my care, is of interest, not only on account of the rarity of the condition, but also because of the comparatively large size of the tumor and the very slight amount of subjective disturbance to which its presence gave rise.

History.—The patient was a strong and active single woman of 18 years, and one of a family of ten healthy children. Her parents and grandparents are alive and well. The patient first menstruated at the age of 14. Since that time, the periods have been more or less irregular, although painless, and marked by a discharge which was normal in appearance and amount. Her general health has always been excellent. One year prior to the date of consulting me, she weighed 160 pounds. At the time of examination her weight was 145 pounds. In June, 1911, the patient's menses ceased, and did not reappear. No pain, discomfort or illness had been present at any time. The temperature was normal, and there was

Fig. 1.—Right ovarian mass, prior to division.

no increase in the pulse-rate. Except for an occasional sensation of numbness in the lower limbs, the patient felt normal in every way.

Examination.—The young woman presented every appearance of good health, despite the history of recent loss of weight. Inspection revealed an irregular contour of the lower half of the abdomen, greater in prominence on the right side. Palpation showed the presence of a firm, lobulated, slightly movable mass in the right lower quadrant. On rectal palpation, a large, somewhat rough, irregular mass could be felt occupying the greater portion of the pelvic cavity.

Operation.—The surgical removal of the tumor offered no unusual difficulty, aside from the rather firm impaction of the growth in the pelvis, necessitating the exertion of considerable force in its extraction. The uterus was found to be unchanged, and rested on the upper surface of the tumor mass.

Pathologic Specimen.—The growth itself was irregularly oval in shape, and measured 12.5 by 15 cm. At the time of removal it weighed 2.26 kilos. When sawed in two, it was found to consist of a solid, body wall, varying in thickness, with an oval cavity in the center. This cavity was filled with a grayish, granular material which probably represented disintegrated and degenerated fibrous tissue. Nothing suggestive of teratoma fragments was to be found anywhere in the tumor.

* Read before the Jackson County Medical Society, March 26, 1912.

1. Pozzi and Bender: Rev. de gynéc. et de chir. Abd., 1912, xvlii 129.

2. Williams: Am. Jour. Obst., 1893, p. 1; quoted by Pozzi and Bender.

3. Le Clerc de Beaucoudray: Jour. de méd., de chir. et de pharmacol., 1760, xii, 530.

Portions of the mass were examined, both clinically and microscopically, by Dr. Otto Leslie Castle. Although the lamellæ were irregularly arranged, a section of the tumor revealed the characteristic structure of bone tissue.

The left ovary also was enlarged, and measured 4.5 by 6 cm. On section, it was found that the organ had undergone the changes incidental to fibromatosis, but no trace of either bony or calcareous matter could be discovered.

I am indebted to Dr. Otto Leslie Castle and to Dr. Walter M. Cross for the following pathologic report, and quantitative analysis:

"Left ovarian specimen consists of simple fibroma. The fibromatous tissue is continuous with ovarian tissue. Right ovarian specimen consists of fibromatous nodules, and a bony mass which has the appearance of eburnated bone. The central cavity contains degenerated connective tissue, with some lime salts. The saw-cut body surface is of nutmeg appearance. A section of the bony mass was made by grinding a thin fragment on a water-stone, dehydrating in alcohol and mounting in hard balsam. Histopathologically, the specimen is found to consist of atypical bone tissue with irregular spaces and canals. No typical haversian systems can be recognized, although numerous connecting canals between bone spaces can be seen. This process probably represents a metaplasia of the fibrous tissue. There is no evidence of teratoma."

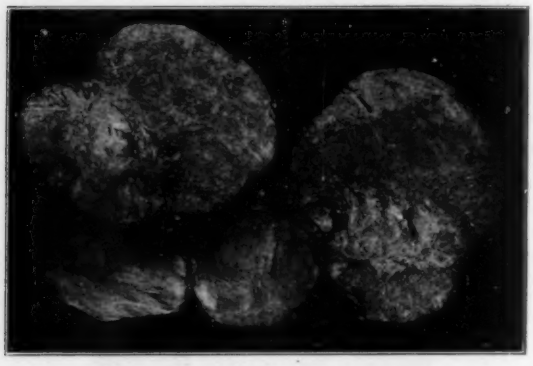

Fig. 2.—Right ovarian mass, after division, showing cavity in center and the character of the bony walls.

Fig. 3.—Left ovary, showing presence of fibrous tissue and thickening of capsule (beginning fibromatosis).

Chemically, Dr. Cross, city chemist, found the mass to consist of:

$Mg_3(PO_4)_2$ 1.65%; $CaCO_3$ 10.40%; $Ca_3(PO_4)_2$ 84.88%

Wells[4] gives the comparative results of quantitative analyses of bone and calcified masses as follows:

	$Mg_3(PO_4)_2$	$CaCO_3$	$Ca_3(PO_4)_2$
Calcified Masses	0.84 to 1.5	7.6 to 13.4	85.4 to 90.6
Normal Ossification	1.02 to 1.75	9.2 to 12.8	83.8 to 87.8

Consequently, the analysis places the tumor here reported in the normal classification class.

4. Wells: Jour. Med. Research, 1906, vii, 491.

Women and Quacks.—Among the victims to quackery of every sort women far outnumber men. They are always more trustful, and, as a rule, find it more difficult, especially when suffering, to believe that anyone can be base enough to abuse their confidence, much less to take advantage of their helplessness in order to plunder and injure them.—Henry Sewill in *Vanity Fair.*

INFLUENCE OF SODIUM IODOXYBENZOATE ON REACTIONS OF INFLAMMATORY CHARACTER*

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AND
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A rabbit sensitized to horse-serum responds to an injection of a small amount of serum into its epidermis with a local reaction at the place of injection. The reaction consists of a swelling accompanied sooner or later with reddening and heat, while frequently more or less pronounced hemorrhages with necrosis occur.

In the course of our investigation it became apparent that the size of these local reactions may be used as a fairly accurate expression of their intensity. We studied the variations in the intensity of these reactions under different conditions. Since the reactions of different animals showed rather wide variations, we followed the extent of the reactions in the same animals for varying periods of time before and after the injection of the drugs to be experimented with.

A number of rabbits received shortly before or after the injections of the serum 10 c.c. of twentieth-normal neutral sodium ortho-iodoxybenzoate solution, intravenously. The effect of the drug on the extent of the reaction is strikingly shown by the accompanying tabulation:

EFFECT OF SODIUM IODOXYBENZOATE ON AREA OF LOCAL REACTION TO SERUM

	2 Hours. mm.	4 Hours. mm.	6 Hours. mm.	24 Hours. mm.
Before administration of sodium iodoxybenzoate..	18.8	22.5	24.6	21.5
After administration of sodium iodoxybenzoate..	5.1	6.6	9.4	9.0

A series of experiments in which sodium iodosobenzoate was used in the same concentration and dosage also showed an inhibitory effect on the reactions, but not so striking as that of the sodium iodoxybenzoate.

The administration of sodium iodbenzoate and sodium benzoate in equal molecular concentrations had no inhibitory effect on the local reaction. It was necessary to determine whether the iodoxybenzoic acid exercises an influence on the mechanism of the allergic reaction with which we were dealing.

In another series of experiments, intravenous injections of larger doses of horse-serum were given before the intradermal injections. This also reduces the local reactions very markedly. In this case we have to do with an anti-anaphylactic phenomenon.

It is known that the fall in blood-pressure on reinjection of sensitized dogs can be prevented by the slow injection of small amounts of horse-serum; but a previous injection of sodium iodoxybenzoate in dogs sensitized to horse-serum does not prevent the usual large drop in blood-pressure on the injection of a second dose of horse-serum. It is therefore evident that the mechanism by which the sodium iodoxybenzoate influences the cutaneous reaction cannot be attributed to an influence on the general allergic reaction.

In another series of experiments we studied the local effect of sodium iodoxybenzoate in the following manner:

* Read in the Symposium on Antiseptics and Germicides in the Sections on Pharmacology and Therapeutics and Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

* From the Pediatric and Pharmacologic departments of the Johns Hopkins University.

The animals (rabbits) received in the right side of the abdomen a certain amount of serum diluted with saline solution, in the other side the same amount of serum diluted with a sodium iodoxybenzoate solution; in a third situation a solution of iodoxybenzoate alone was injected as a second control.

The results were plotted in a chart, which is not reproduced here,[1] but which showed that here also the sodium iodoxybenzoate exercises an inhibitory influence particularly during the first four hours.

From the studies of Loevenhart[2] it appeared probable that the iodoxybenzoate and iodosobenzoate may affect oxidation processes in the organism. Therefore we thought it possible that the influence of these drugs used in our experiments is attributable to their effect on oxidation processes, a point of view supported by the inactivity of the iodbenzoic acid.

A further ground for this hypothesis was furnished by the results attained in a series of experiments with sodium cyanid, a drug which is known to interfere with the oxidative processes of the tissues. In the latter experiments the rabbits received intradermally in the side of the abdomen a certain amount of serum diluted with a solution of sodium cyanid, and in the other side the same amount of serum diluted with a solution of sodium hydroxid, the alkalinity of which corresponded to that of the sodium cyanid solution. A third injection was given at another point with the same solution of sodium hydroxid alone. The results showed that particularly during the first few hours the reactions obtained with the serum-sodium cyanid are more intense than those with the serum-sodium hydroxid.

From our studies we incline to the view that the sodium iodoxybenzoate does not affect the general allergic reaction but that it does influence the local intracutaneous reaction which owes its origin to the production of some toxin resulting from the reunion of allergin and ergin.

The intracutaneous reaction is of an inflammatory type. The influence of the iodoxybenzoate noted seems to inhibit particularly the degree of swelling. This local swelling is chiefly characterized by serous infiltration, that is, by edema. Therefore we may, perhaps, express our results as follows:

Sodium iodoxybenzoate inhibits a certain phase of an inflammatory reaction, while sodium cyanid intensifies it.

Since the influence of these drugs possibly may be attributable to their effect on oxidation processes in the tissues our results seem to confirm the contention of Martin Fischer[3] that any interference with the oxidative processes of the tissues is likely to favor the production of edema.

Edema we consider one of the manifestations of inflammation, and we suggest the hypothesis that any measures, favoring the oxidative processes have a tendency to inhibit certain phases of inflammatory phenomena, while measures interfering with oxidative processes have the opposite tendency.

We recall here the results obtained by Loevenhart[4] in the treatment of certain skin infections by an ointment of benzoyl peroxid. This author thought that the healing effect of the ointment was due partly to the antiseptic property of this drug and partly to its influence on the tissue-cells favoring oxidations. The beneficial result of the open-air treatment of tuberculosis, of infective conditions in general and even of open wounds may possibly be explained in part on the same hypothesis.

So far our experiments were conducted with a peculiar form of reaction, but our recent experiments with mustard-seed oil have shown that here also iodoxybenzoate and iodosobenzoate have a striking inhibitory effect on the local intracutaneous reaction, while iodbenzoic acid has none.

Of special interest are results with the intracutaneous administration of diphtheria toxin. Twenty-four hours after the injection rabbits treated with iodoxybenzoate showed a marked inhibition of their reactions, while subsequently the reactions of treated and untreated animals took about the same course. This result is the more remarkable as the reactions of the untreated animals do not develop visibly before about twelve hours after injection of the toxin; that is, at a period when the immediate effects of the iodoxybenzoate are not likely to exist any longer.

The conception is therefore suggested that the injection of the iodoxybenzoate produced such changes in the organism as to alter its local reactivity to diphtheria toxin.

It appears to us not impossible that the altered reactivity in this case is primarily due to some influence on the oxidative processes of the organism.

1. Amberg and Knox: Jour. Pharmacol. and Exper Therap., 1912, iii, 223.
2. Loevenhart and Grove: Jour. Pharmacol. and Exper. Therap., 1909-1910, 281; ibid., November, 1911.
3. Fischer, Martin H.: Oedema, 1910.
4. Loevenhart: Therap. Monatsh., 1905, xix, 426.

THE RETAIL PHARMACIST AS A PURVEYOR OF PURE DRUGS *

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In a recent novel[1] which has attracted considerable attention among pharmacists is the following: "I don't see what bigger thing a man can do than to combine pure, clean, unadulterated roots and barks into medicines that will cool fevers, stop chills and purify bad blood. The doctors may be all right, but what are they going to do if we men behind the prescription case don't supply them with unadulterated drugs?" This seems like a fair question for the layman to ask and the answer to it would seem a simple one, involving only the question of honesty or integrity; but we know that the problem itself is much broader, more complicated and difficult than the writer implies, not only on account of the division of interest and responsibilities, but also on account of the inherent difficulties of the drug problem itself.

That the ideals of the reliable pharmacist are not surpassed by those of the harvester, as just quoted, is shown by an incident referred to by Professor Procter in his address to the graduating class of the Philadelphia College of Pharmacy in 1858.[2] The incident occurred in New York and related to a friend of Professor Procter's whom he called Colton, and who at that time was a prominent pharmacist on Broadway. The pharmacist, having occasion to replenish his stock of cantharides and finding that the wholesale druggist with whom he usually dealt had none, went to another wholesale druggist whom the narrator named Haswell. When Colton

* Read in the Symposium on Drug Standards in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

1. Porter, Gene Stratton: The Harvester, p. 41, Doubleday, Page & Company.
2. Procter, William: Am. Jour. Pharm., 1858, xxx, 202.

entered the extensive establishment the following dialogue ensued:

Colton: "I am informed that you have powdered cantharides of good quality, and I am desirous of getting some that are reliable."

Haswell: "Oh, certainly! You will find none better. We had the powder made expressly for our sales from selected flies."

Colton: "I am particular in providing this drug, as you know how much depends on its efficient and prompt action."

Haswell: "You may rely on our article as in good condition."

Here the conversation closed; Colton gave his order and left the store. Some weeks after while he was engaged at his counter, Haswell walked in, evidently under some nervous excitement, and the following occurred:

Colton: "Good morning, Mr. Haswell, can I serve you to-day?"

Haswell: "A member of my family has been taken suddenly ill; her physician, among other treatment, has prescribed a blister, and I have come out of my way, believing from your well-earned reputation that we may rely on your cerate, and much depends on the rapid action of the plaster."

Colton: "I have always been careful in preparing this cerate from good flies and, fortunately, in this instance, I have your own testimony, in addition, in their favor."

Haswell, who had till that moment forgotten the first transaction, quickly replied: "But, sir! Are you sure those flies were active? Have you tried them?"

Colton: "You said they were when you sold them to me."

Haswell: "But, my dear sir, this blister is for my *daughter!* Don't you understand? For my only *daughter!* Can I rely on it?"

Colton: "For your *daughter!* And so my cerate is for every other man's daughter who deals with me and may need it, and who is as dear to his affection as yours is to you. When I purchased those flies from you, it was your reiterated assurance of their reliability which chiefly induced me to take them, but now I perceive that your language had no real value and was given in the spirit of a huckster. I trust, sir, that this incident will be of use in your future transactions; and for your present comfort I may assure you that your flies were found to be efficient before they were dispensed."

Haswell acknowledged the justice of the rebuke and said that never before had he been properly impressed with the responsibility attached to the wholesale drug business.

INCREASE IN THE NUMBER OF DRUGS

Until about twenty-five years ago the list of drugs in the Pharmacopeia represented those which were chiefly employed by the physician. At that time it was possible for the pharmacist to have a good oversight of the drugs and preparations which were employed. I can even recall when the Shakers sold directly to individual pharmacists many of the indigenous drugs that were used. While the means for the identification of drugs and chemicals were meager as given in the Pharmacopeia at that time, yet the professional pharmacist by his experience and training was enabled to judge quite well regarding the quality of drugs, his judgment depending much on their appearance, odor and taste. At that time many pharmacists handled the crude drugs described in the Pharmacopeia, and after grinding them themselves made nearly all of the pharmacopeial preparations, as these were all used in sufficient quantity to make it worth while.

Since that time drug-stores have been multiplied, pharmaceutic manufacturing houses have been established in great numbers, large chemical houses have been developed and the number of remedial agents has increased until it is safe to say that the articles in the Pharmacopeia represent but a small part of the substances actually used by the medical profession. While these changes have gone on in pharmacy we must recognize that they have reflected at the same time the changes in the practice of medicine. Such pressure has been brought to bear on physicians by the interests directly concerned that instead of their using pharmacopeial drugs and preparations we find them prescribing extensively the newer synthetics, the active principles and special preparations of manufacturers. The result of all this has been to add to the shelves of the pharmacist a host of remedies which are likely to be required at any time.

Beginning with the use of the standard fluidextract of ergot manufactured by Dr. Squibb, which was extensively designated in the prescriptions of physicians, we have seen this specialization developed and extended until to-day the pharmacist is compelled to carry a line of official preparations made by quite a number of manufacturers. While it is true that the competition among manufacturers and the development of definite standards in the Pharmacopeia have caused the production of a line of assayed drugs and preparations which in some cases at least are superior to and more uniform than those manufactured a few years ago, yet even these preparations may deteriorate or their properties change, in some instances, depending on how long they have been kept in the stock of the manufacturer or jobber as well as on the druggist's shelf. This places a great responsibility on the retail pharmacist, as he must have exact information regarding the value of drugs and preparations at the time they are dispensed. I think it can safely be said that the professional pharmacist usually exercises a great deal of care in selecting drugs and chemicals of good quality and in the making of galenicals which will be found to be efficient by the physician. Furthermore, even with those preparations which he purchases from a manufacturer, he will usually in one way or another make sufficient tests to satisfy himself that they are true to the label, so that there probably never has been a time when the professional pharmacist was more alert and more desirous of working with the physician than at the present. At this point I wish to refer to an article by Mr. Henry C. Blair[3] which, it seems to me, is well worthy of perusal. It is a practical exposition of what a professional pharmacist is capable of doing, and as the article was prepared essentially in the interest of professional pharmacy and was published in a pharmaceutic journal it will stimulate the pharmacists of the United States to endeavor to attain an even higher efficiency in the professional part of their calling. My object in mentioning this paper here is to show to physicians that there are among pharmacists those who give serious thought to the question of the purity and reliability of the medicines which they dispense.

It is probably true that there are more pharmacists in business than are necessary to supply the drugs and medicines required by the public; still the number of strictly reliable, conscientious or so-called professional pharmacists probably does not exceed the demand, and by a little inquiry physicians should have no difficulty in determining their location and thus be enabled to

3. Blair, H. C.: The Manufacture of Galenicals by the Retail Pharmacist—Its Possibilities and Limitations, Jour Am. Pharm. Assn., 1912, I, 17.

direct their patients to them. But of course no business alliance should exist between physicians and pharmacists in such cases. In this way the mere traders, whether doing a small or a big business, would in time become differentiated from the class of true pharmacists, even though they did call themselves druggists; and the two professions would be mutually protected to a greater degree than probably obtains at present. While some physicians might hesitate in a matter of this kind, the question is too important to be neglected, and we should not wait until there is a separation by pharmacy laws of the true apothecary or professional pharmacist from the mere vender of drugs. But laws or no laws, the most reliable pharmacist will always be the one who has the ability and conscientious scruples to take the initiative himself in keeping his stock up to standard.

Until recently, we may say, and this is particularly apparent if we turn over the pages of a book like that of Dragendorff's[4] with the thousands of remedies there recorded, our principal object in the study of medicinal substances seems largely to have been to collect in one place all the remedies that have been used, thus seeming to indicate that we were afraid of losing something that might prove ultimately useful to mankind. This period is contemporaneous in the United States with the time when the great compilations or dispensatories were popular, these being useful to the pharmacist and suggestive to the physician. Furthermore, our knowledge of drugs, apart from certain tests for identity, has consisted largely of unconfirmed statements regarding their value, so that we may say that the most useless things, like the pebbles, have been too frequently polished, while our knowledge of the most valuable drugs, like the uncut diamonds, remains bedimmed. With the exception of a comparatively few of the vegetable drugs our knowledge regarding their active principles and specific action is more or less indefinite, to say the least, and hence they are for the most part without quantitative standards, even of purity.

Owing to the fact that there are many factors which cause a variation in the constituents of drugs, such as for example those which modify the character and quantity of the constituents depending on how and when the drugs are gathered and how they are cured or dried and subsequently handled, it becomes exceedingly difficult for the pharmacists to furnish a uniform article from time to time, particularly in cases in which there are no standards for the active remedial constituents. The difficulties of the pharmacist, dealing as he does with galenicals containing the constituents of living plants, are in a measure comparable to the difficulties of the physician who finds his patient a living organism with individual variations that preclude his determining with absolute precision the amount or character of response with any given quantity of drug. But as the medical profession is directing its attention as never before to a scientific study of the action of drugs, so the members of the pharmaceutic profession are advancing and attempting to provide drugs and preparations with a definite quantity of active principle.

FACTORS IN THE IMPROVEMENT OF DRUGS

To give assurance of the progress that is being made I may mention some of the factors which are contributing to an improvement in the quality of drugs.

Legislation.—One of the most important of these is the enactment and enforcement of national and state laws relating to drugs and medicines. This beneficial influence has been going on ever since Congress, in 1848, passed the law requiring all imported drugs and medicinal preparations to be inspected before passing the custom-house. In the address of Professor Procter[2] already referred to he calls attention to the fact that at that time at the port of New York alone something like 100,000 pounds of spurious, adulterated and deteriorated drugs were annually rejected and screened out of the market which but for this law would have been distributed throughout the United States. I have not seen the figures showing the amount of spurious and adulterated drugs which were refused admission into the United States since the passage of the Food and Drugs Act of 1906, but I am sure that it was quite large, as the standards adopted were not only those of the U. S. Pharmacopeia and the Association of Official Agricultural Chemists, but those representing the most recent researches in pharmaceutic chemistry and pharmacognosy. To what an extent we have progressed may be seen from the picture that Professor Procter has given us of the conditions that prevailed fifty years ago.

> The power of Congress is limited to the custom-house when it presents us foreign products in good condition. Once beyond the examiner, they are open to the mercy of American ingenuity; the skill which evidences itself in the production of *genuine* French brandies, wines and perfumes is not slow to enter the domain of medicines, and by the aid of modern alchemy, transmute the bitterness of willow bark, and the glossy fiber of the cotton boll into veritable quinin of Pelletier and Caventou. Legislation to meet this evil in its home aspect, must originate and be carried into effect by the authorities of each state; adulterating medicines must be made a felony, punishable by statute, just as any other crime against the welfare of the public health. But amid the diversified interests striving for ascendency at our legislative centers, such wholesome sanitary measures have little chance for a hearing; for while even the reported approach of a pestilence or epidemic will send forth stringent mandates crippling commerce in their unsparing application of the laws of quarantine, the perennial, ever-present evils that we have pictured flourish and extend, unheeded by the fathers of the state.

Since the time to which Professor Procter referred there has been the realization of what seemed to the apothecary of fifty years ago an iridescent dream. The Food and Drugs Act of June 30, 1906, gave us for the first time a national control over the interstate as well as foreign commerce in drugs. During the last five years the act has been enforced to such an extent that Dr. Wiley[5] in his report for 1911 says of the conditions in the New York market: "Continued improvement in the crude drugs is shown. Only a small number of instances of entire substitution of foreign or inferior drugs is reported." There has also been a wholesome influence exerted in improving the quality of domestic drugs. The beneficial effect of the national Food and Drugs Act, supplemented as it is by the drug laws of the several states which have been framed after the national act, can hardly be appreciated except by those who actually handle drugs. While of course there will continue to be a certain amount of admixture or even substitution in foreign as well as domestic drugs, this being due in a measure to the lack of professional knowledge and responsibility of those who collect drugs, yet the whole commerce is being controlled by a strict inspection either at the custom-house or of the goods

4. Dragendorff, George: Die Heilpflanzen, 1898.

5. Wiley, H. W.: Report of the Chemist for 1911. From Annual Reports of the U. S. Department of Agriculture.

sold by the large drug dealers. With the seizures that have been made of a number of consignments of domestic drugs on the ground of their being misbranded or adulterated or both, I have no doubt that the large drug-dealers have brought sufficient pressure to bear on the collectors of crude drugs that we may feel that the time is not far distant when the subject of the collection of medicinal plants, at least in the United States, will be under the control of properly licensed persons. The collectors of medicinal plants should have just as much information, and if anything greater specialized information, concerning crude drugs than is expected of the dealer in crude drugs or retail pharmacist. Why shall the question of the quality of drugs be put to the retail pharmacist as a conundrum for his solution when the collector has the key to the problem? In practical metallurgy who would think of extracting thousands of tons of ore from a mine, roasting and refining it and ascertaining only in the matte or pure metal that the ore to begin with was of low grade? That this has been a common experience with regard to drugs is shown by the numerous analyses which have been published, but this condition has been greatly improved as shown by the fact that during the past year drugs of a higher grade and greater uniformity are to be found on the market.

I might add at this time that there are other encouraging signs which show us that not only is the whole commerce of drugs being brought under the surveillance of trained and scientific men in pharmacy and those who appreciate their responsibilities in this work, but also even the growing plants yielding our drugs are being brought more and more under scientific observation and control. The intelligent harvester collecting fresh drugs at the proper season may not only collect drugs that are pure and unadulterated, but also collect those that contain the maximum quantity of active constituents. This interest in the growing of medicinal plants will be found an important factor in improving the quality of vegetable drugs. While the chemical manufacturer, by improved laboratory methods, can furnish us with pure chemicals, it is only by the proper study of medicinal plants in the field that we shall ultimately secure the highest possible improvement in the quality of vegetable drugs. What has been done with plants yielding cinchona, coca, opium, zingiber, Tinnevelly senna, caryophyllus and to some extent with the plants yielding digitalis, belladonna and hyoscyamus is likely to be followed with a large number of other valuable drugs in the near future.

Interest in Pharmaceutic Research.—Another factor which is affecting the quality of commercial drugs is the fact that they are being studied more intelligently than heretofore. Until recently, with few exceptions, the scientific study of drugs has been more or less superficial. At the present time greater efforts are being put forth in the study of the active principles. These studies are furthermore being supplemented by the investigations of trained pharmacologists. The result of these investigations must influence not only the practice of pharmacy, but also the practice of medicine. The empiricism of the past is being replaced with the truth of science. The researches of Power and Salway[6] (for instance) in failing to find any constituents in the seeds of the pumpkin that possess tenifugal properties, must influence not only the use of this substance by physicians, but the retention of this article by the Pharmacopeia. The numerous studies on the biochemical essay of digitalis and its preparations which have been published during the past few years and the many investigations which are still going on will shortly enable the pharmacist to supply quite uniform preparations of this important drug. Many illustrations could be given to show that our knowledge of the constituents of drugs is becoming more and more exact, and with this extension of knowledge of the active constituents we are more and more enabled to prepare galenicals which shall represent the true properties of the drug. Furthermore, this knowledge is enabling us to differentiate more clearly those drugs possessing positive medicinal action from those which are slightly efficient or altogether worthless, and by elimination of the latter to reduce the number of drugs. The sooner we can cast all positively useless drugs into the realm of the obsolete the better it will be for all concerned, except, of course, those who are desirous of adding to the number of salable commodities. These investigations, regarding the physical and chemical nature of drugs, form the basis of Pharmacopeia revision, and as the United States Pharmacopeia is the legal standard, it is at once apparent how these two factors, legislation and pharmaceutic research, are contributing most effectively to an improvement and greater uniformity in the quality of drugs of the Pharmacopeia.

Higher Standards of Education.—A third factor making for progress in pharmacy is the higher efficiency on the part of retail pharmacists themselves. This is due to the fact that in some states a newly licensed pharmacist must show that he has had a course of instruction in a recognized college of pharmacy. There has also been a marked improvement in the curriculum of the colleges of pharmacy, so that the graduate has been pretty broadly trained and is usually quite competent to practice his profession. Furthermore, by reason of the increase in preliminary educational requirements, men and women are coming into pharmacy who are better trained and enabled to pursue their studies and take up their responsibilities with credit to their profession and satisfaction to the physician.

Not only is it true that the professional requirements are being advanced, but even the attitude of the wholesale druggists is such to-day as to convince me that they are realizing their great obligations and responsibilities as purveyors of drugs and medicines. Mr. C. Mahlon Kline,[7] in an account of the recent meeting of the National Wholesale Druggists' Association, says:

> The wholesale dealers of ten years ago were not, nor did they have to be, familiar with the professional side of pharmacy. This condition is not true to-day. The wholesaler has been compelled to assume responsibilities as to the quality of the drugs and medicines he handles, and this has driven him to interest himself in the study of drug substances; therefore, discussions having to deal with problems, standards, scientific methods of production or handling, are now heard with the greatest interest, and the purely commercial side has been forced to recede somewhat from its former preeminent position.

We know that there is a growing disposition on the part of manufacturing houses to employ competent analysts to examine drugs before they are further distributed or made into preparations. With the better output of drugs by the dealer in crude drugs and the manufacturer, and the enforcement of the national and

6. Power, F. B. and Salway, A. H.: Jour. Am. Chem. Soc., 1910, xxxii, 346.

7. Kline, C. M.: Am. Jour. Pharm., 1912, lxxxiv, 33.

state laws, the labors of the retail pharmacist are considerably lightened, but no one realizes better than he that he must nevertheless be alert in checking the findings of the government analyst and manufacturing houses if reliability is to be ensured in all cases.

Cooperation.—There is still another important factor contributing to the ideal practice that the professional pharmacist ever has before him and that the physician should insist on his living up to, and this is the disposition for mutual cooperation between the members of the two professions. Whatever may have been the grounds for the pessimistic attitude of physicians a decade or so ago toward the pharmaceutic calling, I firmly believe that the radical changes that have been going on in pharmacy during the past few years give cause for a healthy optimism, that is, an optimism based on a belief in real progress and an earnest desire on the part of pharmacists to render the best service in their power. This does not mean that physicians shall cease to be critical, but that we shall state our criticisms with candor and fairness in joint meetings where they can be discussed and measures for improvements suggested. And here let me say that to my mind nothing augurs more for the mutual progress of therapeutics and pharmaceutical practice than those agencies which promote the coming together of the members of the two callings for discussion of the properties of drugs and their preparations as exemplified in this Section and the work of the Council on Pharmacy and Chemistry of the American Medical Association, as well as in the "get together meetings" of the local medical organizations with the various local pharmaceutic associations. In other words, if we are to make true progress we cannot well afford to be entirely independent. The words of the late Dr. Musser,[8] an honored ex-president of this Association, in a brief address which he delivered before the members of the Philadelphia College of Pharmacy, still ring in our ears and have done an incalculable amount of good in stimulating us to attain a higher goal in the practice of pharmacy. He said:

> I plead, therefore, that you make the calling of pharmacy not a profession, but a science, and that you insist that its conduct must be on the highest scientific plane to the end that those who are its devotees may be counted on, in season and out of season, as men having no code and no regulation, breathing only the spirit of doing unto others as you would be done by.

SUMMARY

In summarizing the points that I have attempted to make in this paper, I may say that the professional pharmacist recognizes his obligations to the medical profession and the dependence which the physician has on him in the dispensing of pure drugs. Furthermore, in spite of their difficulties, there have been professional pharmacists who have consistently tried to handle only pure drugs and to dispense preparations which the physician would find to be efficient.

While it is true that the apothecary is dependent in some measure on the ability and integrity of the large dealer from whom he purchases his supplies, yet he attempts to check in a measure the articles distributed by the manufacturer, recognizing that he stands between the manufacturer and the patient.

Furthermore, there are fortunately a number of factors which are making it easier for the pharmacist to purchase pure drugs and dispense good preparations. These are the enactment and enforcement of drug laws, the greater interest in pharmaceutic research, the higher standards of education in pharmacy and the cooperation between physicians and pharmacists.

Finally, I may say that while the pharmacist is a purveyor of articles that sell at so much per pound or so much per ounce, the ethical standards which guide him in his practice must be as stringent and binding as those which guide the physician in his practice. And while physicians may differ as to diagnosis and as to the relative value of medicines, and while every patient reacts more or less variously toward different medicines and toward the same dose of the same medicine, the standards set for the pharmacist must be those of uniformity and efficiency. The one constant in the equation must be the uniform quality of the drug. This is the position we are endeavoring to live up to in our teaching and in our practice, and we desire every possible cooperation on the part of physicians in advancing and maintaining this standard. While we sometimes feel that the medical profession has not sufficiently understood the task that we have set out to perform, yet we trust that the physician will appreciate that the pharmacist realizes his responsibility and recognizes the importance of fostering the integrity of their mutual relations if the best results in the interests of the public health are to be achieved.

8. Musser, J. H.: Am. Jour. Pharm., 1905, lxxvii, 60.

ABSTRACT OF DISCUSSION

DR. HENRY BEATES, Philadelphia: The existence of pharmacy is conditioned on the demand of the clinician for his armamentarium. The clinician can no more prepare the "materia medica" he uses in prescribing than can the surgeon manufacture the instruments he needs for his work. Years ago I used myself as a physiologic dog, with five tinctures obtained from standard pharmacists. Of tinctures of aconite root, I could take 5-minim doses repeated two or three times at twenty-minute intervals, before I obtained the slightest physiologic action. Of another I could take one-half a teaspoonful every half hour for four doses, which I did with great fear and trembling, even after carefully testing its potency. Nux vomica was taken in from 10-minim to 20-minim doses and pushed to a teaspoonful dose. This could be repeated hourly for three or four consecutive doses before physiologic results were obtained. Two years later the remains of these tinctures were again experimented with on myself, and I found deterioration in digitalis of about 67 per cent., i. e., about two-thirds greater doses than at first taken were necessary to secure recognizable effects. What does all this mean? We must realize and publish to the profession that deterioration takes place month by month and can be demonstrated with approximately arithmetically correct rates. The drugs differ in the rate but all deteriorate like a magnificent building; the longer it stands the more it decays. It is the business of the profession to take cognizance of this fact, and at once demand proper investigation and acquire a reliable knowledge of the potency of drugs at the time prescribed. I was in a drug-store recently when the pharmacist inquired of an agent the price of digitalis leaves. The reply was from 40 cents to $1.20 a pound. How many of our prescriptions are compounded from the 40-cent truck? I think the one great trouble of pharmacy is that the drug-store of to-day is a cigar-shop, a confectionery; indeed, all sorts of things enter into the traffic, even libraries. I believe that measures should be taken to familiarize the public, not with the false statement that drugs are useless, and that sunlight, fresh air and food constitute the great panaceas, but with the fact that reliable medicines properly prescribed and used constitute the greatest known means for the relief and cure of human ills. Let the people recognize that physicians when prescribing the drug necessary to meet conditions must have pure drugs compounded. That that is the *sine qua non* on which therapeutic

success depends. This the profession seems not to comprehend.

DR. F. E. STEWART, Philadelphia: Dr. Beates has spoken of legislation. I think it would be well to throw our influence in favor of the important bills now before Congress. Any person except a physician or pharmacist can practice medicine or pharmacy in this country without license. All one has to do is to set up as drug manufacturer and practice at wholesale. When the representatives of the medical and pharmaceutical professions go to Washington to secure proper legislation, we find the representation of this class of manufacturers there to defeat us. Now if we could get the American Medical Association and the American Pharmaceutical Association to unite in formulating proper medical and pharmacal laws and present them to Congress, we might accomplish something. The bills now before Congress should receive consideration by both professions.

THE QUALITY OF DRUGS ON THE MARKET *

L. F. KEBLER, M.D.
WASHINGTON, D. C.

In all the large sea and lake ports throughout the United States there are now working laboratories. Boston, New York, Philadelphia, Savannah, New Orleans, Galveston, San Francisco, Portland, Seattle, Chicago, Detroit and Buffalo are thus equipped, and there are also laboratories in a number of the inland cities. The entire United States have been divided into sections, each one of which is supervised by some laboratory.

A large part of the work on drugs is performed in New York and Washington. The laboratories in these two cities devote a considerable portion of their energies to this line of work.

I desire at the outset to divide drugs into three great classes: (1) chemicals, (2) crude drugs and (3) prepared mixtures, such as pills, tablets, galenicals, etc.

CHEMICALS

Imported chemicals and those manufactured in the United States are on the whole of satisfactory quality. It is rare for a consignment of chemicals to be held up. Some chemicals, it is true, at times contain small amounts of associated alkaloidal contamination which are not specifically excluded by present standards. For example, samples of morphin sulphate show the presence of codein compounds which are not excluded by the test of the Pharmacopeia. A few chemicals, such as cream of tartar, citric acid, tartaric acid, etc., are contaminated with lead. The latter contamination may assume serious proportions, particularly if the commodities are used in the manufacture of food products.

As a result of competition it is undoubtedly true that manufacturers seldom place on the market commodities of a higher degree of purity than the minimum prescribed standard. Fortunately, however, there are a few exceptions. For example, menthol is usually made of a grade just passing the lowest requirements by the test set by the Pharmacopeia; but menthol of a higher grade is available which can readily be prepared by recrystallizing the usual commodity available on the market. Crystals prepared in this way are as pure, sweet, clean and white as any one can call for. There appears therefore to be no excuse for the inferior grade of menthol. It is self-evident that a higher grade of menthol costs a little more than the lower grades. In some instances in which the chemical is made of a high degree of purity the containers subsequently used in handling tend to cause deterioration. For example, it is highly improper to place a fine quality of caffein or potassium iodid in a wooden or pasteboard box. The conditions that these chemicals may meet in various sections of the United States are such as ultimately to damage the product. The retailer frequently demands an inferior package because of the lower initial cost of a few cents, but this is false economy and works to the detriment of the ultimate consumer. It is most unwise economy on the part of the trade to demand or ask for packages which are not suited for the chemical.

CRUDE DRUGS

Crude drugs are commodities which cause the greatest amount of disturbances. In order to illustrate some of the various points that have arisen, I desire to call attention to actual cases. When the law became effective, it was thought by some that this class of drugs, irrespective of grade or quality, would be permitted entry without restrictions. How this erroneous idea ever became current no one appears to know. Considerable determined opposition was made in many quarters to a restriction being placed on the importation of inferior crude drugs, and this has not yet died out.

Belladonna leaves and roots were among the first to receive consideration. For a time it seemed as though it would be impossible to permit the importation of any belladonna roots and leaves because of the large and extensive adulterations practiced. The belladonna roots were commonly adulterated with poke-root and the belladonna leaves with poke-leaves. It seemed at times that the collectors gathered the roots and leaves of these two plants indiscriminately and then accidentally, incidentally or designedly mixed them. The market at one time was so much disturbed that importers and dealers complained bitterly because we did not permit entry of these drugs. One firm ultimately requested the privilege of picking over and garbling the consignment; this was found to be such a tremendous task, and the results were so unsatisfactory that the request was not renewed. The quality of belladonna under these conditions improved decidedly. Little difficulty has been experienced in the past two years. Samples collected from interstate shipments have been found of good quality.

With sarsaparilla root a peculiar practice was in vogue at the time the laboratory work was begun. The roots were cut off and the rhizomes (stubs) shipped to the United States and used in preparing medicines recognized by the Pharmacopeia and in making semi-official and other sarsaparilla preparations. Such rhizomes in powdered form cannot be recognized safely without the use of a microscope. The manufacturers protested against the exclusion of this "nubbin sarsaparilla," holding that it was just as good as the part recognized by the Pharmacopeia. Some preparations containing this material or extracts of it are still on the market, but its importation has been prohibited.

It has been a common practice to offer mixtures of buchu leaves with large quantities of twigs, stems and leaves, collected indiscriminately. We have not seen our way clear to prohibit or forbid importations without any stems whatever. Some foreign material of this nature is always present. We are working on a 10 per cent. basis, that is, not permitting more than 10 per cent. of stems and foreign material. It is hoped that the time will come when it will be possible to stop even this

* Read in the Symposium on Drug Standards in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

practice. What has been said of buchu leaves holds for other leaves to a greater or less extent.

Cubeb berries are largely contaminated with twigs, stems and worthless berries. There is no excuse for such cubeb berries being permitted entry. We are now requiring the minimum amount of twigs, stems, worthless berries, etc. If they are offered otherwise the importer is privileged either to reship or to clean them. Under these restrictions it is believed that the cubeb berries marketed will soon be in a very satisfactory condition. In the past importers have been permitted to bring in inferior buchu leaves, cubeb berries, etc., provided they were marked in accordance with the proviso in Section 7 of the law; for example, "buchu leaves with stems," "cubeb berries with stems," etc. It was soon found that this practice tended to demoralize the trade, placed the work of the government on a false basis, and above all made available a class of drugs which might be of great detriment to the public health. The proviso of Section 7 is unfortunate in many respects. In the first place, the standard is clearly set forth in the first part of the section, and then the proviso is inserted knocking down the standard. This proviso not only works injury to the wholesaler, manufacturer and retailer, but may do incalculable harm to the physician and unfortunate sick. As an example, for working injury to the drug trade, a commodity permitted entry under the name "cubeb berries and stems" will serve. The importer would mark bales at the port and elsewhere, "cubeb berries and stems," but as soon as the material is released at the dock that mark is entirely forgotten, either intentionally, accidentally or designedly. A druggist in Illinois ordering cubeb berries would receive not the drug of the Pharmacopeia, but the cubeb berries and stems which had demanded entry in New York as such but were not now marked cubeb berries and stems. He would be deceived. When these goods were subsequently purchased by inspectors and found wanting, the persons making the sale when given a hearing would say: "I bought the commodity as cubeb berries. The goods must have been permitted entry into the United States and I had good reason to believe that they were of proper quality." When informed that cubeb berries of the character under consideration were permitted entry as "cubeb berries and stems," he replied that the stems feature apparently had been lost in the course of business somewhere along the line.

I need not call the attention of the members of this section to the great harm that might come to both the medical man and the consumer as the result of using inferior, deteriorated or adulterated drugs. In the face of the disadvantage to which some of the trade is placed by the proviso in Section 7, some dealers appeared before the congressional committee, pleading that this proviso be retained. It is hoped that the medical profession will exert its influence in eliminating or modifying this proviso so as to make it possible for the physician to secure drugs of unquestioned quality and purity. Steps have been taken to prohibit the importation of drugs which might work to the detriment of the public health, but there is no portion of the law which will minimize or restrict the operation of this proviso in drugs manufactured and dealt with solely within the borders of the United States.

Henbane leaves have given us a large amount of trouble. The quality coming in now is much superior to what it was, but is still not of the character desired. There are some excellent henbane leaves coming in. There is little difficulty in getting first-class goods of character and quality, if the price is forthcoming. We see some of the best drugs imported any one could possibly ask for. I had a talk with one of the importers and he told me that they were bringing in some of the finest drugs they had ever seen, but we had been laboring with that firm about two years before they were converted to first-class drugs.

Copaiba is another drug for which the test is far from satisfactory. The copaiba situation is due to lack of information as to actual source or composition and any test that may be set must be arbitrary and may be absolutely worthless in time of need. We have tried out the Pharmacopeial test thoroughly. With some products the test works well, but another kind of copaiba, apparently genuine so far as we can establish, upset the whole thing. The only way to solve the problem is to study the entire matter from A to Z, beginning with the source of production and ending with the consumption. What is true of copaiba holds with a large number of other drugs. We are taking the matter up in Washington with a view to establishing standard specimens of plant drugs in the National Museum and otherwise; but progress is exceedingly slow.

Digitalis is a drug with which we have done considerable work, but it is hoped more will be done in the near future. Digitalis leaves of good quality are available, but I desire to call attention to a scheme in connection with that drug for permitting its entry. "Digitalis Natural Madagascar" was offered. With the qualifying "Natural Madagascar" the importer asserted that he was complying with Section 7 of the act. As a matter of fact, "Natural Madagascar" means nothing to any one. It was an inferior drug and not permitted entry.

Asafetida has given us many wearisome hours and they are still at hand. For example, when we began work with asafetida, some very good material was available. In time the quality seemed to deteriorate and it went down and became worse until we met consignments which contained only 6 per cent. of alcohol-soluble material, the rest being stones and similar worthless material. Then there was trouble in Persia. Importers and manufacturers contended that it was impossible to procure good asafetida on account of the war. The standard was reduced to 35 per cent. of alcohol-soluble material and permitted entry with conditions as to use in manufacture. Every importation permitted entry was required to be marked and an affidavit given that it would be used only in the manufacture of certain commodities, and that a proportionately large quantity would be used in the manufacture of official products. The alcohol-soluble matter is now up to 50 per cent. again, and in all probability the standard will have to be raised. Now, there are foreign resins added to bring up the alcohol-soluble material. To what extent we shall be successful in combating this evil, I do not know.

Goldenseal is high-priced and the incentive to adulteration is extremely great. It was practiced for a while by admixture with olive-pits. The contention was also made that this drug and others could be reduced to the minimum standard by the addition of olive-pits and what not, but such a contention has not as yet been sustained by the courts.

In view of the situation obtaining relative to crude drugs, it can readily be seen that with the operation of the proviso in Section 7 it is extremely difficult to eradicate adulteration of various forms. Nevertheless, experience clearly shows that the quality of the drugs imported and of those shipped in interstate commerce has greatly improved.

PREPARED MIXTURES

Under the heading of "prepared mixtures" are classed all forms of medication in the manufacture of which one or more drugs have been used; for example, strychnin pills, Blaud's mass, hypodermic tablets, etc. It is self-evident that these preparations will partake of the nature and character of the drugs available; but in many instances when the preparations are standardized, the quality of the finished preparations is better than that of the crude drug. A considerable number of tablets and pills offered to the trade and to the medical profession direct have been examined and found wanting in certain respects. For example, nitroglycerin tablets have in a majority of cases been found deficient in the nitroglycerin content declared. This is also true of strychnin tablets, morphin tablets and other commodities of this type. The greatest shortcoming appears to prevail in the agents sold direct to the physician. In a number of instances the preparations examined from physicians' supply houses have been found wanting. Investigation shows that these commodities are manufactured largely by rule of thumb. Little checking obtains in their manufacture and generally no analyst is employed.

The manufacturers of these commodities, on being advised of the shortcomings, with rare exception have taken steps to make improvements by employing properly qualified men to supervise the manufacturing process, make necessary analyses and control the finished products generally.

In conclusion it may be said that since the laboratory work was begun there has been marked improvement in the quality of chemicals, crude drugs and mixtures prepared from the drugs which I have named; but there is room for further improvement.

DRUG PLANT CULTIVATION*

R. H. TRUE, PH.D.
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The questions which I wish to consider at this time concern primarily the quality of drug plants, though the economic side cannot be ignored, as a sound economic basis must be obtained before the production of a drug is possible. In other words, although we may try to separate the question of quality from price, production will not be possible unless the cash balance is on the right side of the account.

The conditions under which wild drugs are collected from the woods and the fields lead to considerable waste. Typical of this class is goldenseal, a drug which has a genuine value and a great market demand, and is subject to the variable conditions of other wild drugs. This plant grows over a large area and is collected by people who are more or less well informed on botany. It is collected at the time when it is readily recognizable. As a result there comes on the market under the name of "goldenseal" an article which is collected at various seasons of the year, dried with various degrees of thoroughness and stored under various conditions of moisture. Although a considerable variation in quality might be expected, this seems to be the case less conspicuously with goldenseal than with a drug which has an active principle readily deteriorated by bad handling, as, for example, digitalis.

Digitalis has not been but is more and more tending to be collected extensively in the wild condition. The plant grows wild on the western coast in great abundance, and having learned of its value as a drug the people have begun to gather it. Digitalis is subject to considerable variation, being, perhaps, as sensitive a drug as there is on the market. I think that if all of the facts were known the variation in different specimens of digitalis would be found less a matter of active principle in the plants themselves than the active principle left after the processes of picking, curing, storing and manufacture. In digitalis there is apparently an unstable mother substance which breaks down in various ways under various methods of curing, and is therefore subject to deterioration from bad handling, from being stored in too moist a condition or from being kept under such conditions as will interfere in other ways with the chemical integrity of the product.

By cultivating drugs, instead of collecting them wild, control over the product may be gained. The material collected wild is not subject to any considerable control until after it reaches some central point. It is collected in the mountains perhaps of the Carolinas by a man and his family who drive in a covered wagon, carrying a stove and food. The plants are dried out during intervals of fair weather, separated into lots of like nature, and bartered at some general store, say, for household necessities. From here the lot goes to some drug center in the mountains, perhaps to Hendersonville, Asheville or another of the many central points. From here it goes into the hands of the wholesale crude drug dealers of Baltimore, New York and others of the large distributing centers. It is easy to see how through such a devious history as this a sensitive drug has a good chance to undergo deterioration.

Under cultivation the whole situation from the start would assume an entirely different aspect. To begin with, the seed would be selected. This selection, in order to be most useful, should follow careful investigations to discover the forms having the desired amount of active principle and giving a satisfactory yield. The benefits of cultivation would be lost largely unless a scientific investigation of the product from point to point were carried out.

The value of the work of the plant-breeder in raising the quality of the product can hardly be overestimated. I would illustrate this by referring to belladonna, with which we have been working in the Department of Agriculture for the last three years. The sources of the lack of uniformity in belladonna have been a subject of special attention. We found, on studying a patch of belladonna planted on the experimental farms at Arlington outside of Washington, that belladonna, on a patch of ground having a uniform soil and subject to the influence of the same atmospheric conditions, was variable in its activity, some plants yielding leaves of half pharmacopeial strength and other samples showing three times that amount of alkaloid. This showed that variation in the patch was not caused by conditions of soil and atmosphere. Since the nicotin content in tobacco can be considerably increased by supplying highly nitrogenous fertilizers, it was thought that we might be able likewise to increase the low yield of alkaloid in belladonna by supplying fertilizers of this character. Experimental plantings treated in this way gave unsatisfactory results not capable of interpretation. Some samples were rich and some poor in alkaloid. Two years ago 150 plants were set out in uniform soil and each individual plant was assayed. This gave us what we

* Read in the Symposium on Drug Standards in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

hope is the solution of the belladonna problem. It appeared that there are plants rich in alkaloids naturally, some poor naturally. Therefore in those samples which showed low assay in the former test we probably happened to gather leaves from low-yielding plants; the samples which showed an unusually rich assay happened to come from plants with high alkaloidal content. This gives us the basis for hope that we may be able eventually to bring cultivated belladonna up to a high uniform standard of efficiency. Belladonna seems to offer just such a situation as did the sugar-beet prior to the time that scientific efforts toward improvement were begun. It must be recognized that chemical variation takes place in these plants as well as form and size variation, and that we can apply the principles of breeding and selection to the improvement of plant drugs. Indeed, there is ground for hope that it may ultimately be practicable within limits to fix the alkaloidal content of belladonna at the desired point and to secure this result uniformly.

The key to the situation lies in the recognition of the fact that the problem is one of hereditary tendency and one capable of regulation through scientific effort. This work looks in many other directions, but even to indicate these possibilities would take me longer than my time will allow. I have mentioned belladonna somewhat fully because it indicates the line along which we expect progress to lie.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. KEBLER AND TRUE

PROF. JOSEPH P. REMINGTON, Philadelphia: I have been looking forward for many years to the time when such valuable drugs as belladonna, hyoscyamus, digitalis and others can be scientifically cultivated. That has been done with other plants and I think if we work long enough at it and have Professor True and a number of other workers experimentally growing plants we shall succeed. A few days ago at Minneapolis at the University of Minnesota I saw the work that is being done with thousands of plants. The experiments bearing on development, involving selection, fertilizing, rapidity of growth, etc., mean much hard work. It is going to take a long time to reach valuable results. Therefore I think this Section ought to give to Professor True every possible encouragement in endeavoring to secure uniformity of production of active principles in these valuable medicinal drugs.

DR. C. B. LOWE, Philadelphia: I know that poke-root is found in belladonna as an adulterant. I thought it was added after reaching this country. If it is done in Europe, I think the poke-root must be exported from the United States for the purpose of adulteration, as the drug has not been naturalized to any extent in Europe.

DR. TORALD SOLLMANN, Cleveland: Our experience with cinchona has proved that this can be done.

MR. OTTO RAUBENHEIMER, Brooklyn: The problem of cultivation has been of interest not only in the United States but also in foreign countries. I would call attention to the studies of Allen in England, of Tschirsch, Tunmann and Hertwig in Switzerland, of Thoms in Germany, and others. In connection with this subject, especially regarding digitalis, I might perhaps also point out that the wild-growing digitalis leaves in the Black Forest in Germany are considered much more active than the cultivated leaves. Greater precautions ought to be taken as to the drying and storing of digitalis leaves and in the same way with other drugs. The requirements of the foreign pharmacopeias, especially as to digitalis leaves, are such that the dried leaves have to be stored over lime, which absorbs the moisture, thereby preventing the destruction of the glucosids. While it is true that not many chemicals are at present adulterated, I have come across two instances, namely, borax adulterated with 50 per cent. of sodium bicarbonate, the soda being much cheaper, and one of potassium nitrate, a barrel of which I obtained which had been adulterated with about the same amount of sodium bicarbonate. The United States Pharmacopeia could be more definite regarding the keeping, the storing or the preserving of vegetable drugs. A little more attention undoubtedly will be paid to that in the coming revision and also to such important statements as, for instance, that colocynth, before being powdered for medicinal preparation, should have the seeds removed. I believe such statements should go into a separate rubric or in heavy type so that they can be readily noticed by manufacturers and druggists, because they are overlooked in a great many instances and thus lead to legal difficulties.

MULTIPLE SCLEROSIS*

L. HARRISON METTLER, A.M., M.D.
CHICAGO

The literature of multiple sclerosis is so full of contradictions that it makes unsatisfactory reading. The purpose of this paper is to suggest a possible cause for the differences of opinion between European and American clinicians as to the frequency of the disease. It has been pronounced in Europe to be one of the commonest of the organic diseases of the nervous system, and in America one of the rarest. Clinicians in the same vicinity differ widely in their opinions as to its frequency. Since geographic and ethnologic differences are not adequate to account for these differences of opinion, there must be some disagreement among the authorities in regard to terms used and primary definitions.

The following three cases are reported by way of introduction, to show how quite dissimilar troubles may be clinically classified as multiple sclerosis. The first is a typical case with a marked neuropathic heredity; the second is less clear both etiologically and clinically; the third is a pure case of cerebrospinal syphilis with a remote resemblance merely to multiple sclerosis.

REPORT OF CASES

CASE 1.—The patient, W. A., aged 32, seen in consultation with Dr. A. B. Spach, in 1904, had been married ten years and was the father of two healthy, well-developed girls. His wife had never been ill or had any miscarriages. Family history revealed that the paternal grandparents were first cousins; that a paternal uncle and aunt, as well as the patient's own father, were all congenital deaf-mutes, and that the patient's mother became a deaf-mute after an attack of scarlet fever in infancy.

History.—The patient himself was weakly as a child, though later he considered himself well and strong until marriage; and that he was always far less vigorous than his twin brother. In childhood he had measles, mumps, whooping-cough and scarlet fever without sequelæ. Syphilis and gonorrhea were denied. Masturbation was practiced slightly for a short time. He smoked tobacco moderately, and never used any liquors.

Eight years prior to my seeing him his trouble began. There was a sudden attack of numbness in the left hand. This appeared later on in the left foot. He noticed that he dragged somewhat the left foot. During this attack, and long afterward, the patient said he stuttered considerably. Six or seven months later he saw double (diplopia), and his eyes twitched laterally (nystagmus). So unexpectedly did this attack come on that the patient could not assign any apparent cause for it. The trouble remained one-sided (hemiplegic) and he was able to go back to his grocery

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

* Because of lack of space this article is abbreviated in THE JOURNAL. The complete article appears in the Transactions of the Section and in the author's reprints.

business. Then followed an interval of comparatively good health without symptoms of any sort.

Three years after this first apoplectiform seizure, a second occurred. This also was one-sided, but was not so marked as the first attack. The general symptomatology was about the same. There was numbness, paresis and dragging of the foot. From the patient's description he seems to have had at this time a slight intentional tremor. He said his "hands jerked when he went to use them." His speech, he declared, was very little affected, if at all. He experienced no headache, no pains or other sensory manifestations beyond the numbness; no bladder disturbance.

A third, and somewhat similar, apoplectiform attack occurred about a year before I saw him. It came on suddenly one night during a storm while he was at work. There was partial paralysis with stiffness in both legs. There was a distinct intentional tremor and a foot-clonus when he rested the foot on the toes. His speech was affected, his wife volunteering the information that "he talked as if his mouth were full of mush and as if he had to jerk his words out." His sight was affected, but just how he could not tell. He simply noticed that he could not read so well as he used to. There was some pain in the left eye; also some pain appeared in the thumb of the left hand.

Examination.—The patient's gait was shown to be decidedly ataxic and spastic. He had difficulty in getting started and he had to depend on a cane to keep from falling. The muscular movements were paretic or merely weak. The knee-jerks were exaggerated and a Babinski phenomenon, with ankle-clonus, could be elicited easily. The characteristic intentional tremor was in the hands. The grasp of the hands was weakened. A muscular tremor, fibrillary in character, appeared on faradic stimulation. A slight lateral nystagmus was observed in both eyes. The pupils were similar and responded satisfactorily to light and accommodation. The disks were slightly pallid on the temporal side. Vision was apparently unaffected, except for the occasional diplopia. The speech was typically scanning and jerky.

There were no distinct objective sensory manifestations; no electrical changes; no muscular atrophies.

Mentally the patient was mildly torpid. He complained of poor memory. According to his wife he was subject to intense melancholy, alternating with an irresponsible, hysteroid state.

Diagnosis.—The diagnosis of multiple sclerosis was made without any hesitancy in this case, as the history and symptomatology were all but typical. The special interest in the case lies in its etiology, a marked family neuropathy or degeneracy being obvious.

The following case is reported as in all probability one of genuine sclerosis, but with a clinical picture so atypical in many respects as to admit of an honest doubt in regard to the diagnosis:

CASE 2.—The patient, Mrs. A., aged 30, referred to me by Dr. C. A. Leenheer, was an American, housekeeper, married six years, with two perfectly developed and healthy children aged respectively five and two years. The patient's husband, living for the last two years in Australia, is a perfectly healthy man so far as she knows. The patient had a miscarriage, from cause unknown, in the interval between the births of the above-mentioned children. Menstruation began at 12 years of age and has always been regular, painless and of normal flow. Temperamentally she is optimistic and she has had the advantages of a grammar-school education.

Her family history was not particularly noteworthy; the father is living at the age of 61 without apparent disease, but being freely addicted to the use of alcohol and tobacco; the mother died at 55 with Bright's disease and complications, but no known pelvic disorder. One brother was living and healthy. Four other brothers, two of whom were twins, died in infancy from causes unknown to the patient. So far as known all other near relatives were in perfect health.

History.—The patient had no alcoholic or drug habits and denied, on careful questioning, ever having seen any of the outward signs of syphilis. In infancy she had measles and chicken-pox only; no convulsions of any sort. There was a history of purulent discharge from the left ear for about a week, three years before; and of severe headache, off and on, ever since she was 22 years of age. In the beginning these headaches were very severe, occipital and nuchal in location, sometimes frontal, and appeared and disappeared suddenly. The patient's description of them resembled that of ordinary migraine. Under treatment she remained free from headache a whole year. Then it returned, on and off for several months, finally to go away for good. For the last two years she has been practically free from headache. Sometimes, recently, she had a feeling of fulness in the head or of pressure or crawling beneath the skull at the vertex. Rarely there was a slight and temporary headache associated with a soreness down the back of the neck. Her real, present trouble she dated from two years before during the puerperium following the birth of her last child. It consisted of a typical nystagmus, or twitching of both eyes, on extreme lateral tension, voluntarily or involuntarily produced. The oscillations of the eyeballs were marked and typical along the horizontal plane. They could also be detected slightly in the vertical plane. In the front position the eyes appeared stationary, but when the fundi were viewed through the ophthalmoscope in this position a fine tremor was noticeable in the retinal vessels. At times, the patient said, the twitching of the eyes had been better, then again worse. Generally there had been a slight improvement, the twitching not being so pronounced as it used to be. Diplopia and severe vertigo accompany, as we would naturally expect, this nystagmus. With the onset of the eye trouble, the patient's gait became unsteady and wobbling, like that of a drunken person. There was so much incoordination and disturbance of vision that often when the patient attempted to sit on a chair, she would miscalculate and fall to the floor. The same thing happened frequently when she attempted to place anything on the table. All of this she herself attributed solely to her eye trouble. Neither she nor her friends ever noticed any change in her voice or manner of speaking. She did not remember having ever had any tremor, paretic or paralytic manifestations in the arms or hands. She fancied that her hand-writing had changed a little; that it was a little more unsteady, and that she tired easily. This again she attributed to her eye disorder. She stumbled and fell, she said, though she was much steadier now than she used to be. She did not recall having ever had any sudden giving way of her limbs, letting her down abruptly on the ground. At times her legs felt exceedingly heavy and quickly tired on exertion. There was nothing in the history that suggested an apoplectiform or epileptiform attack. The cutaneous sensations had all remained intact, and up to the present there had been no paresthetic sensations or other subjective phenomena such as numbness. The sight had been poor in the right eye for many years, following some slight traumatism to that eye, the history of which is not very clear. Hearing, taste and smell have all remained normal.

There had never been any disturbance of the bladder or rectal functions.

The patient declared that she perspired more than she ought to, especially under the arms, and that she flushed under the least excitement.

Her sleep at night was sound and satisfactory. She was not much of a dreamer, but such dreams as did occur at rare intervals were usually of a disagreeable, depressing character.

Her general mentality had remained about normal, though she thought that she was more easily irritated than she used to be. She denied all manifestations of hysterical character at any time. She became angry easily, though she was usually hilarious and laughed continually at the embarrassments which her trouble caused her. All her symptoms, and especially the vertigo, became worse during menstruation. In fact, the vertigo then was simply intolerable. It was objective in character; that is, the patient herself seemed stationary while the outside world was whirling about her. It ceased, though not always, when she shut her eyes. It

was always made worse by movement or change of attitude, and especially when she first got up in the morning. It was always more severe when she lay on her left than when she lay on her right side. She had noticed lately that when walking she tended to turn or sway to the left. At times there was a slight, involuntary twitching in the left leg. Her weight had diminished from 139 to 121 pounds.

Examination.—Direct examination of the patient revealed no abnormal manifestations in connection with the heart, lungs, blood-vessels and alimentary tract. The pulse, temperature and respirations were normal. Examination of the blood and urine proved negative (Leenheer). No deformities or signs of trauma were seen in the patient's body. Her gait was the typical drunken, wobbling, cerebellar gait. The ataxia was pronounced and was of the cerebellar type. There was very little, if any, distinct incoordination of movement. The patient could strike promptly and accurately with her toe a mark on the wall. There was no objective loss of muscular power and no asynergy, though she complained of tiring easily on exertion. Her attitude when sitting or standing was natural. There was a slight movement of uncertainty when standing but hardly a typical static ataxia. By none of the several usual methods could an "intention," or other form of tremor, be elicited. The knee-jerks were highly exaggerated. The Achilles tendon reflex was normal. There was no ankle-clonus, nor could the Babinski, Gordon or Oppenheim phenomena be provoked. The abdominal reflexes were totally absent. The pupils were equal and normal in size and responded more promptly to light stimulation than to accommodation. There were no abnormal movements in the muscles of the face and tongue. There was no scanning of the speech, but at times there was apparently a very slight involuntary hesitancy. The patient was not aware of this herself, but it was observed by several of us. The recital of "Peter Piper picked a peck of pickled peppers" was without fault. No tremor of the lips could be detected. Occasionally she said that she had a sort of tight or crowded feeling in her throat, the description of which brought to mind the picture of a globus hystericus. On examination the laryngeal and pharyngeal movements were all found to be normal. Careful and frequent examination elicited no abnormal cutaneous sensations in connection with touch, pain or temperature. No tender spots could be found in the occipital or other region of the head on percussion.

The cranial nerve functions were all found to be intact.

The following ophthalmologic and otologic reports were made by Dr. Leenheer:

Vision: R. E. 15/100 $\subset$ — 2 cyl. axis 180 = 15/15 — 2
L. E. 15/40 $\subset$ — 1.00 cyl. axis 180 = 15/15 — 3

Jaeger 0.5 with glasses.

Lids, normal; conjunctiva, normal; cornea, clear; iris, reacted to light and accommodation, both same size; lens, clear; fundus, blood-vessels of normal size; papillæ distinct and not choked; tension, normal; muscles, normal in all directions; no muscle imbalance; fields, interlacing, overlapping of colors; nystagmus, horizontal type; increased when muscles were put on tension laterally, either right or left.

Three years previously the patient had running ear (left); ran about a week. She never had had any trouble since. Hearing: right ear: whisper, 20 feet; watch, 2½ feet; C ″ : 40 air conduction, 22 bone conduction: Galton, high and low tones heard; left ear: whisper, 15 feet; watch, 2½ feet; C ″ : 42 air conduction, 23 bone conduction; Galton, high and low tones heard; drums, both slightly retracted, otherwise normal.

Two Wassermann tests were made by Dr. A. W. Stillians, both proving to be negative.

Von Pirquet tuberculin test was negative. Lumbar puncture was not done. Lately the patient had complained of a feeling of stiffness in both legs, especially on starting to walk.

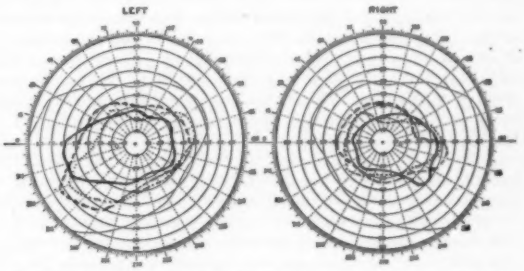
Diagnosis.—Multiple sclerosis following puerperal infection in a patient with a slight neuropathic heredity.

The following case, referred to me by Dr. F. M. Keefe of Clinton, Iowa, for diagnosis, illustrates fairly well a type of cases which show a clinical resemblance to multiple sclerosis but which many of us would consider as having only a clinical resemblance and in no way to be classed as a case of multiple sclerosis. Indeed, after a tentative diagnosis of multiple sclerosis had been made, a further examination of the case convinced me that it was merely a case of nervous syphilis with a disseminated lesion. The progress of the disease and results of treatment, as lately reported to me by Dr. Keefe, have proved that it was a case of cerebrospinal syphilis.

CASE 3.—The patient, T. M., aged 34 years, had been married eight years, with four children aged, respectively, 7, 5 and 3, the last being twins. Wife and children have always been healthy. Wife has never miscarried.

History.—In childhood the patient had measles, mumps, ague; no diphtheria, scarlet fever, typhoid fever, pneumonia or rheumatism. He said he never had a headache in his life; that his bowels had always been regular; that his appetite was poor; that he had never vomited or felt like vomiting.

He presented himself for examination on account of his disturbed micturition. He found it hard to start the flow of urine, though he had not the slightest difficulty in stopping it. Often there was an imperative demand for movement of the bowels. He had to hasten to stool, else he would lose control of the rectal function. Indeed, he had several times been embarrassed with involuntary evacuation. He first experienced this bladder and bowel trouble about four months



Perimeter chart in the case of Mrs. A. Dotted line, green; solid line, red; dash line, blue.

prior to presenting himself for examination. He had used alcohol and tobacco in moderation, so he said. His sexual power remained intact, but on close questioning he admitted that his desire was not so keen as it used to be and that intercourse seemed to him "to lack vitality." Two attacks of gonorrhea, the last one nine years before, were admitted. Syphilis was strenuously denied. He described buboes that he had nine years before on the left side but which disappeared after a three weeks' course of treatment; did not recall ever having had a hunterian sore, skin eruption or mucous patches. Admitted that his hair had been falling out of late.

About eight months before presenting himself for examination, he was seized with a sharp, aching pain in the lower part of the spine. This lasted acutely for about a week. It then seemed to pass up the spine and to extend into both arms as far as about the middle of the biceps. About five months later he noticed a similar pain in the legs. He described it as a kind of aching, tired feeling, more or less constant. In the trunk "a pain moves around and shoots across the ribs, like the pain when one is short of breath." Occasionally these pains had been sharp and cutting. At times they seemed to be in the stomach. Indeed the pains as described were not unlike tabetic pains and forcibly awakened a suspicion of tabes dorsalis.

Examination.—With the beginning of the spinal pains (that is, about eight months before examination), he had double vision or diplopia. He took a course of treatment to overcome this, but without avail. He was still strabismic. The

trouble was wholly in the right eye. At first it turned inward; then under treatment it resumed for a time its normal position; but in a month or two it turned outward, where it had since remained in spite of all treatment. The left eye had never been affected. Dr. Charlton of Clinton, Iowa, examined the eyes and reported as follows: Fundus clear, vessels normal, with disk pale. Pupils bombic with very little reaction to light or accommodation. Right pupil medium, left pupil larger. Muscles for distance and near normal. Fields both normal. Vision, right and left, 6/24, with inability to read large types at 15 inches. Under homatropin and cocain vision equaled 6/24; with + 1 vision 6/6. Next day accepted + 1 which gave vision 6/6 + J. I. Recently he has had a reaction with right eye turning out and up. Vision reduced, etc.

With the first appearance of the above-described pains he said his gait was crooked. He wobbled because he felt weak in the legs. This staggering disappeared after he had been in the hospital for some weeks. He declared that he never had any difficulty in getting round in a dark room; nor did he ever stumble while going up and down stairs. He could stand over a basin while at his morning ablutions without swaying or falling. He refers to a distinct numb feeling in the ulnar region of the left hand and arm as high up as the middle of the forearm. There was no numbness in the right arm or in the feet or legs. On examination a moderate Romberg was observed, the static ataxia being emphasized by the Oppenheim maneuver. The knee-jerks were highly exaggerated, especially on the left side. An ankle-clonus could be obtained on both sides; also the Babinski toe phenomenon. The Gordon and Oppenheim phenomena could not be elicited. The Achilles tendon reflex was somewhat heightened. The reflexes in the left arm could not be obtained; those in the right arm were slightly diminished. The patient's gait was distinctly incoordinated. He could not walk a chalk line. There was no incoordination of movement in the arms, though there was a slight tremor of a feebly "intention" character. The handwriting was smooth and firm, and exhibited none of the characteristic tremor of general paresis. And yet it was stiff and hard, suggesting a strong effort to avoid unsteadiness. No words or letters were omitted when he wrote a long sentence from dictation. The tongue was protruded normally and was devoid of tremor. There was the slightest difficulty, a sort of hesitancy, in the speech, especially when the attempt was made to say "Peter Piper picked a peck of pickled peppers," etc. Distinct scanning of the speech could not be detected. There was decided ptosis on the left side. The left eyeball moved easily toward the outer canthus but not inwardly beyond the middle line. The left internal rectus was paralyzed. In the right eye there was a very noticeable nystagmoid movement in the lateral direction. Both pupils were moderately dilated and immovable to light and accommodation.

The dynamometer registered 60 for the right hand and 80 for the left. The patient declared he had lost 30 pounds in the last few weeks.

Unfortunately none of the blood-tests could be obtained in this case.

Diagnosis.—At first a tentative diagnosis of syphilitic disseminated sclerosis was made, which later on was changed to simple syphilis of the central nervous system.

PATHOLOGY

Statistics based on clinical phenomena alone are worse than useless in indicating the frequency of multiple sclerosis. The symptoms of the disease are not uniformly distinctive. In the experience of the most able diagnosticians errors of diagnosis, as shown by autopsy, are still far too common. Indeed, the frequency of multiple sclerosis will never be determined until we possess a more accurate definition of its pathology and pathogenesis than we now have. No two investigators seem to agree on what constitutes exactly the physical basis, or the pathophysiology, of the malady. According to each one's preconceived notion of what is primary or secondary in the disease process will his list of cases be long or short. This is the first and most impressive inference one is forced to draw from the voluminuous literature of the pathology of disseminated sclerosis.

The crux of the whole matter is, of course, the plaque or sclerotic patch. This is fairly distinctive and, if some agreement could be reached as to its origin and essential constitution, our conception of the pathology of the disease would be sufficiently definite to base statistics on as to the frequency of it. To say that these plaques are irregularly distributed in every part of the central nervous system, including the optic nerves (Buzzard, Uhthoff, Velter, and others), the cranial nerve roots, the cauda equina and even the peripheral nerves according to Strahhuber, is to adopt the time-honored phraseology of the text-books. As a matter of fact, nearly every one of these well-worn assertions has been contradicted, and if admitted to be true they are far from giving us the real, desirable knowledge. More to the point would it be to account for any peculiarities that these sclerotic patches may have, their presence or absence in any other disease, and the special character of the disease process which brings them into existence. This information the literature is deficient in. Theories and notions supply the want of actual knowledge.

I believe most of the more recent pathologists do not consider these patches as in any way limited solely to multiple sclerosis; and yet after a careful study of their writings one cannot help imbibing the idea that they are always able to distinguish the patches of multiple sclerosis from similar patches in other diseases. Spielmeyer, for instance, says that "the histologic pictures of the plaques in general paresis and multiple sclerosis are similar"; and then he proceeds to point out various slight differences whereby they may be distinguished one from the other. The case that he reports is diagnosed, on these differences between the patches, as one of general paresis and not multiple sclerosis.

In the discussion of their case of "syphilitic multiple sclerosis," Spiller and Woods declare that the sclerotic patches in this class of cases resemble the degeneration of multiple sclerosis. These authors say that in rare instances syphilis may provoke a clinical picture that cannot be distinguished from that of typical multiple sclerosis, not by the formation of sclerotic patches but by the ordinary arteritis and meningitis of syphilitic infections. Syphilitic patches are not sharply defined from the surrounding normal tissue; but neither are the patches of multiple sclerosis in some cases. In the syphilitic form of multiple sclerosis there is a round-cell proliferation of the pia mater and a thickening of the blood-vessels. In some areas thickened vessels with perivascular sclerosis are to be found without the formation of plaques. The plaques, however, may be present in different areas of the cord. Occasionally there may be observed a slight neuroglial proliferation, without thickening of the vessels, resembling in no way true plaque formation but being in the nature of a slight diffuse secondary degeneration. In syphilis secondary degeneration more frequently occurs; but this is not wholly unknown in multiple sclerosis. Even in the syphilitic patches, preservation of the nerve-fibers, the cardinal fact in the pathology of multiple sclerosis, is sometimes noted. The clinical confusion of cerebrospinal syphilis with multiple sclerosis is far from being an unheard-of thing. In both a disseminated lesion provokes a markedly similar symptomatology and in rare cases the lesions of both diseases may be associated. But I think it will be admitted now that the pathology

of both diseases is *not* the same. Syphilitic patches can be distinguished from multiple sclerotic plaques. Even the gross vascular and meningitic changes that so often seem to be alike in both diseases are not wholly established yet as primary, rather than mere secondary, factors in multiple sclerosis.

"The chief trait of the inflammatory process of this disease," to quote Cornil and Ranvier, "is that in damaging the axis-cylinders, it does not destroy them for the most part or compromise in the least the nutrition of those portions of the fibers situated outside of the nodules. This, however, is not an absolute rule and in certain cases the axis-cylinders are actually destroyed. This was clearly pointed out by Babinski and has been verified by a large number of observers. On the other hand, it must be remarked that the persistence of the altered and demyelinized axis-cylinders at one point of their course, though more pronounced in multiple sclerosis than in any other disease process, is not characteristic of the disease. One may observe a similar condition of affairs in ordinary myelitis, in compression myelitis and in transverse neuritis of the roots." This opinion is concurred in by Marinesco and Minea, who used the methods of Bielchowsky and Cajal. All of these investigators found that where the sclerosis involved the gray matter the nerve-cells were equally spared within the sclerotic areas and showed relatively slight alterations (Thoma). They were very irregular in outline, generally swollen, with the position of the neurofibrils somewhat changed. A curious phenomenon noted by Popoff, Marinesco, Minea and others, and one also much debated, is the apparent multiplication of the fibers in the sclerotic areas. The possibility of this is admitted by many authors, among whom are Huber, Schmaus and Strahhuber. It is denied, however, by Cornil and Ranvier, Bielchowsky, Borst and others, and the error shown to be in mistaking the older degenerated fibers and neuroglial elements for new fibers.

The pathogenesis of multiple sclerosis is still a battleground for conflicting opinions. At one point the contest is waged about the inflammatory or degenerative nature of the malady; at another as to whether the interstitial or parenchymatous elements are primarily at fault. In either case there is a difference of conception of the disease, involving questions of etiology, prognosis, and treatment; and until these differences are harmonized there will continue to be the widest sort of discrepancies in the statistics as to the relative frequency of the disease. Adamkiewicz, Redlich, Thomas, Strümpell and others maintain that the beginning of the pathologic process should be looked for in a primary alteration of the neurons or nobler elements. This is the opinion also of Risien-Russel, Tredgold, and Bramwell.

According to E. Muller, Strümpell, Ziegler and Schmaus multiple sclerosis is essentially a primary, neuroglial degeneration. Leyden, Goldscheider and Oppenheim teach that the disease is merely a sequel of acute myelitis or encephalitis circumscripta. Cornil and Ranvier also favor this view. Flatau and Koelichen declare that most of the recent investigators favor the inflammatory theory, and in their article refer to Ribbert, Cramer, Bikeles, Goldscheider, Balint and others. The inflammatory theory is strenuously opposed by Muller and Taylor. Strümpell particularly says that the case which he examined with Redlich was in all probability one of acute disseminated myelitis but certainly not one of multiple sclerosis. Cramer saw a combination of multiple sclerosis and disseminated myelitis in a girl of 19 who had had measles and who died two years later with paraplegia. As Spiller and Camp have recorded, it is exceedingly difficult to determine the relation of multiple sclerosis to multiple myelitis. Here is the crux, however, of the whole matter. If disseminated encephalomyelitis is the antecedent of multiple sclerosis, or, in other words, if multiple sclerosis is nothing but a disseminated inflammatory process, we shall be at a loss to answer a good many questions that at once obtrude themselves. The hereditary and familial types of multiple sclerosis, rare as they are, will have to be explained. Some rational accounting for the relative frequency of disseminated myelitis as compared with typical multiple sclerosis will have to be forthcoming. The frequency of multiple sclerosis after some forms of infection and its rarity after others, in conjunction with the fact that disseminated myelitic conditions occur after practically all forms of infection, will need an explanation. And, finally, the peculiar symptomatology of multiple sclerosis whereby we identify the disease definitely *intra vitam*, while that same symptomalogy does not hold so well in disseminated myelitis, must be given some serious consideration. In a word, if pathologically we are going to identify multiple sclerosis with disseminated encephalomyelitis, we must hasten to bring about a more close identification of the two maladies in regard to their etiology and symptomatology. Because these and other questions are still unanswered, many of the later authorities are adopting the view that there are two diseases, as pathologic processes, masking under the name multiple sclerosis. Erb, Gowers and Rosolimo regarded both processes, interstitial and parenchymatous, as primary and parallel in multiple sclerosis, thus lining up the malady as a form of chronic myelitis. But others have gone further than these and have promulgated the view, which is the one to which I incline myself, that there is a degenerative, familial multiple sclerosis without inflammation, which is rare, and an inflammatory form which is more common. This is the view of Ziegler who, according to Adami and Nichols, recognized two varieties, secondary multiple sclerosis which results from a previous focal degeneration or inflammation, and primary multiple sclerosis due to a pathologic hyperplasia of the glia, akin to what occurs in syringomyelia and attributable in all probability to some error in development; "the latter type affects chiefly the posterior columns and the neighborhood of the ventricles and is characterized by a peculiarily dense overgrowth of the glial substance, in which may be found scattered nerve-fibers that present little or no degeneration." In the same strain Collins writes in the "American Text-Book of Pathology." The two cases I have reported illustrate, I believe, most clearly both varieties of the disease.

My own private and hospital records have led me to draw the conclusion that multiple sclerosis is a comparatively rare disease. I have been limiting the diagnosis to the typical Charcot type, in which I have found some marked neuropathy in the ancestry, and when the disease happened to follow an infectious outbreak I have regarded the latter as rather an augmentatory cause and not a primary one. My list of cases would have been very much larger had I included all of the cases that were diagnosed as disseminated encephalitis, myelitis, or encephalomyelitis, and in which the symptoms were definite enough to indicate a disseminated lesion but not a typical Charcot multiple sclerosis. It seems to me highly desirable, in the present pathogenetic status of the disease, to distinguish the disseminated inflammations from the disseminated (abiotrophic) scleroses.

31 North State Street.

A CASE OF MULTIPLE CEREBROSPINAL SCLEROSIS, PRESENTING UNUSUAL SYMPTOMS SUGGESTING PARESIS

CLINICAL AND PATHOLOGIC FINDINGS *

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The following case is of more than usual interest because of its history, the rather unusual mental symptoms and the pathologic findings.

The patient, J. D., a white man, aged 20, first came under my observation on Sept. 30, 1909.

Family History.—When the patient was first brought to my office, I recalled the fact that many years ago I had attended his father for an initial lesion. Disappearing from observation, the latter returned some ten years later suffering from locomotor ataxia. In the meantime he had married and had had one child, the object of our present study. The father died at 42 of bronchopneumonia. The patient's mother is living and apparently well. There were no other children and no miscarriages.

Personal History.—The mother states that the patient had had no other illness save that of measles at 5 years of age. Five or six years ago he was struck on the head with a baseball bat. The blow, however, did not produce unconsciousness and did not require any medical or surgical care. The patient attended school, at which he made average progress, until he was 15 years of age. He then entered an accident insurance office and apparently did his work well. He continued in average health until the onset of the present trouble.

Present Illness.—In April, 1907, the patient suffered from an attack of headache accompanied by vomiting. He was ill for about three weeks. He usually vomited several times a day and the vomiting bore no relation to the taking of food. The headache was referred to the frontal region. It was then noticed by his mother that the patient dragged his left leg and that his left arm was weak. He was admitted to the Hahnemann Hospital. Here he remained four weeks and was discharged much improved. In February, 1908, the right arm and leg became weak. He was again sent to the Hahnemann Hospital and subsequently to the Episcopal Hospital, after which he was again much better. In the early part of 1908, both eyelids dropped but this cleared up again in a few weeks. His mother further stated that in the intervals of his two attacks the patient had been awkward and unsteady on his feet; that at times he complained of seeing double and also of ringing in his ears. She also said that his statements became uncertain, that his mind became impaired and that there was a very marked loss of memory. He was constantly smiling, laughing and behaving foolishly and he did not talk plainly as before.

Present Condition.—The station with eyes closed presented a markedly increased sway. The gait, both with the eyes closed and open, was very ataxic and spastic, the patient walking with his legs widely separated. He was unable to maintain his balance on either foot alone. The grip of the right hand was about one-half of normal; the left hand was decidedly weaker than the right. The movements of the upper extremities were also ataxic. There was a slight fine intention tremor of both hands. The tongue was protruded in the median line and also revealed a fine tremor. Tremor was also noted in the lips. The angles of the mouth were retracted equally well. The right knee-jerk was plus; the left, double plus. There was a slight disappearing ankle-clonus on the left side; none on the right. A slight Babinski reaction was obtained on the left side; none on the right. Sensation appeared to be normal everywhere. There was no involvement of the sphincters. The pupils were equal and reacted promptly to light and accommodation. There was nystagmus on extreme rotation to the right but not on rotation to the left. Examination of the other special senses was negative. During the examination, statements of the patient's mother as to the mental condition were abundantly confirmed. The patient's appearance and manner strongly suggested a dementia præcox. His statements were difficult to follow, were at times confused and his speech was very indistinct. It did not suggest a scanning speech but rather the speech of a paretic. He was buoyant and happy, laughed much, denied that he felt sick and declared he was "fine dandy."

The patient was admitted to the Jefferson Hospital Oct. 1, 1909. His eyes were examined by Dr. LeFevre who reported as follows: "Oct. 18, 1909.—The patient has a primary double optic atrophy of not very long standing, the right eye being a little more advanced than the left. There is no contraction of the arteries and the visual acuity is not much disturbed. The ocular movements are jerky and there is nystagmus in the extremes. The patient has a divergent squint (latent) of about 15 per cent., but no palsy. The right pupil is normal; the left is slightly larger, irregular and reacts sluggishly to light." These symptoms were repeatedly confirmed by subsequent examinations.

An examination of the urine revealed a faint trace of albumin but it was otherwise negative. An examination of the blood revealed hemoglobin, 82 per cent; red blood-cells, 5,260,000; color index, 0.78+; leukocytes, 7,400; polynuclears, 71 per cent. and lymphocytes, 29 per cent. A Noguchi test resulted negatively. I did not at the time have the opportunity of having a straight Wassermann made.

Course of Disease.—Subsequently the patient's condition gradually grew worse. He soon became unable to stand, became bed-ridden, had recurrence of vomiting at times and also of diplopia. Incoordination became more pronounced on the left side. The Babinski sign remained faint on the left side but made its appearance also on the right. The light reaction gradually became impaired on both sides, more markedly on the left. Gradually also the patient became weaker, incontinence of urine and, at times, of the bowels made its appearance. Throughout he continued in a condition of euphoria; when questioned he always replied that he was "fine dandy." The patient remained at the Jefferson Hospital until Feb. 8, 1910, when he was transferred to the Insane Department of the Philadelphia Hospital. Here the mental symptoms previously noted were confirmed. His statements were incorrect, varied and uncertain; he was buoyant and happy; his speech was a trifle thick; at one time it was noted as scanning; at times his words were unintelligible. The facial lines were still preserved though the nasolabial fold on the right side was a little deeper than that on the left. There was no ptosis. The nystagmus previously observed was not noted at this examination. The tongue presented a fine tremor. The left pupil was slightly larger than the right; both were slightly dilated. Neither of the pupils reacted to light but they reacted promptly to accommodation. All of the deep and superficial reflexes were increased. There was a persistent ankle-clonus of the right side and a spurious one on the left. A typical Babinski could not be elicited on either side.

A diagnosis of paresis was made. The patient subsequently developed a gastritis and also a nephritis of which he died March 4, 1910.

Necropsy.—Only the brain and spinal cord were removed. The brain weighed 1,250 gm., and beyond an increased amount of fluid in the dura and fulness of the vessels, nothing abnormal was noted on gross inspection.

Microscopic examination of the brain and of the cord disclosed the fact that the patient had not suffered from paresis but from multiple cerebrospinal sclerosis. The areas of sclerosis were scattered through all parts of the nervous system. They were in many instances exceedingly large, in others very small. They were widely distributed, no part of the central nervous system escaping. Naturally, because of the mental symptoms present, the condition of the cerebrum was especially studied. Large areas of sclerosis were

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912

noted scattered throughout the white matter and basal ganglia, but everywhere there were observed large numbers of small areas of sclerosis which were immediately subcortical and cortical. They existed in large numbers in the frontal lobes, the precentral and postcentral convolutions, the temporal lobes, the cuneus and the mesial surface. Judging from their appearance also many of these areas were relatively old and of long standing. It would seem to be exceedingly probable that the mental condition of the patient was distinctly referable to this subcortical and cortical involvement.

The fact that in the present case the mental symptoms were pronounced from the outset, that they consisted of a rather pronounced mental loss, a dementia, together with a decidedly expansive mental state, suggested the diagnosis of a paresis. The tremor of the lips, tongue and hands, which was a fine tremor, not the coarse atactic tremor so frequently seen in multiple cerebrospinal sclerosis, the two attacks of hemiplegia which suggested the apoplectiform attacks of an early stage of paresis, the fugacious character of some of the symptoms, the inconstant character of the nystagmus, the inequality and irregularity of the pupils, the fact that the light reaction became impaired in one pupil relatively early while the reaction to accommodation persisted—all these facts tended to confirm or were in harmony with the idea that the patient was suffering from paresis.

On one occasion only did the suspicion of a multiple sclerosis cross my mind, but only to be rejected. Furthermore, I could not banish from my mind the fact that the father of the patient had been under my care for a primary specific lesion and I not unnaturally inferred that I had before me a case of juvenile paresis.

That the mental symptoms of multiple cerebrospinal sclerosis may simulate paresis is of course well known. Thus, Petroff[1] collected fourteen cases from the literature, though six of these he apparently regarded as genuine mixed forms of multiple cerebrospinal sclerosis and paresis. The case reported by himself was that of a man aged 47 who denied syphilis. After a severe trauma, this patient suffered from transitory speech disturbances and passing states of confusion. Two or three years later the following conditions were noted: intention tremor, scanning speech, spastic paralysis of the extremities, incontinence of the urine, mental dulness and, at times, confusion; later, also, slight nystagmus. In the ensuing year short, marked excitements and depressions, irregular febrile phenomena and, finally, well-developed ideas of grandeur made their appearance, as did also tremor of the mouth and tongue; the speech became tremulous. The pupils remained equal and reacted promptly.

Again, von Bechterew[2] describes a case in which numerous areas of sclerosis, varying in size, were found, both in the white and gray substance. Very many areas were found in the cortex. He expresses the opinion that the lesion of the cortex must undoubtedly be looked on as the cause for the mental symptoms, such as apathy, diminution of the intelligence and imperative laughter. Besides there are cases of disseminated sclerosis in which the motor phenomena of the multiple sclerosis are accompanied by the psychic changes usually characteristic of paresis. He also speaks of mixed forms in which the pathologic changes of both paresis and multiple sclerosis were present.

Raymond and Touchard[3] have placed on record an interesting case of multiple sclerosis beginning with mental symptoms simulating general paralysis. In the first phase of the case there gradually appeared in a young man, aged 26, disturbance of memory, of intelligence and of character, accompanied by somatic symptoms characterized by palsies and passing sensations of formication, by tremor of the upper extremities, by stammering and impediment of speech. Epileptiform crises also occurred. These symptoms led to the diagnosis of paresis. In a second stage the mental symptoms completely receded while the somatic symptoms became more marked and better defined, presenting then the clinical picture of an undoubted multiple sclerosis.

Seiffer[4] made an interesting study of the psychic disorders occurring in multiple sclerosis in Ziehen's clinic. He found more or less pronounced mental disturbances in nine out of ten patients. He came to the conclusion that a fundamental qualitative difference between the dementia of multiple sclerosis and other forms of dementia did not exist. The differentiating factor is to be sought in the accompanying symptoms, the morbidly exalted state, euphoria or frequent sudden emotional changes. These emotional changes, Seiffer thinks, do not stand in any relation to the usually mild degree of dementia which is in contrast to the emotional anomalies in dementia paralytica. In one case there was a history of an attack of hallucinatory confusion which Seiffer regarded as dependent on the multiple sclerosis, though this mental disturbance completely disappeared. Another of his cases is interesting because of the appearance of paranoid ideas. The mental disturbances appear to bear, according to Seiffer, some relation to the initial localization of the sclerotic process. Cases which especially present spinal symptoms present few or no psychic symptoms; cerebral, cerebrospinal and bulbar cases on the other hand more frequently present psychic symptoms.

According to Seiffer, Redlich and Economo[5] and Marburg,[6] the mental disturbances of insular sclerosis are probably in relation to the involvement of the cortex and in the case here presented the findings are in keeping with this explanation. Sometimes paresis, at times dementia præcox, at others paranoia or manic-depressive affections are simulated. Spiller and Camp[7] it may be recalled have reported suicide.

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1. Petroff: Inaug. Dissert., Berlin, 1901; abstr. in the Jahresb. ü. Neurol. u. Psychiat., 1901, v, 331.
2. Von Bechterew: Neurol. Centralbl., 1902, xxi, 285.
3. Raymond and Touchard: Rev. Neurol., 1909, xvii, 224.
4. Seiffer: Arch. f. Psychiat., 1905, xl, 252.
5. Redlich and Economo: Jahrb. f. Psychiat., 1909, xxx, 315.
6. Marburg: Handbuch der Neurologie, vol. ii, Specielle Neurologie, i, p. 911.
7. Spiller and Camp: Jour. Nerv. and Ment. Dis., 1907, p. 660.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. METTLER AND DERCUM

DR. C. R. BALL, St. Paul, Minn.: I wish to report a case of multiple sclerosis in a woman, aged 30, who had been married seven years and who last January gave birth to a healthy baby. This was her first pregnancy. The disease had evidently begun two years ago, but had recently, since her confinement, become a little worse. The supposition of the attending physician was that her condition was due to nervous syphilis although there was no history of syphilis. Prior to my examination she had been treated with mercurial inunctions daily for thirty days without benefit. At the time I saw her she was markedly spastic in the lower extremities. She had a double Babinski reflex and some disturbance of the bladder function. The pupils were equal and reacted to both light and accommodation. She was a little bit emotional. There was not a true nystagmus but there were nystagmatory movements; there was also just a suggestion of an intentional tremor. During the past two months she has had considerable diminution in

her power of vision, more in the left eye than the right, and also paralysis of the external ocular muscles. The question to decide here was whether this condition was due to multiple sclerosis or to cerebrospinal syphilis, or general paresis. After taking the history and making the examination I confess that I was unable to make a differential diagnosis. So I made a Wassermann test of the patient's blood, a spinal puncture, a Nonne globulin reaction, counted the lymphocytes and made a Wassermann test of the spinal fluid according to Hauptmann's method. The globulin reaction was strongly positive. The lymphocytes were 128/3, which would make about forty-two lymphocytes to a cubic millimeter, which shows an enormous increase, as from six to nine is normal. Two Wassermann tests in the blood were absolutely negative; the Wassermann in the spinal fluid by the original method, using 0.2 c.c., and by Hauptmann's method using 0.8 and 1 c.c., was also negative. So of these four reactions, two of them, the increased globulin and the increased lymphocytosis, were very much in favor of a syphilitic condition. But the negative Wassermann test with the large quantities of spinal fluid was the determining differentiating factor which enabled me to put this case definitely in a class of multiple sclerosis.

I think that these four reactions are of especial value in multiple sclerosis. Hauptmann calls attention to the fact that the original Wassermann test in the spinal fluid is not of very great value, but that by the use of larger quantities of fluid it becomes an absolute means of differentiating between the two conditions.

Dr. J. T. Fisher, Los Angeles: We all know how common these cases of multiple sclerosis are in the clinics at Vienna. We come home with the impression that it is a fairly common disorder, but we have to change that point of view, because we find that in the clinics at the Boston City Hospital, as well as those in Los Angeles, the disease is quite uncommon. In my own clinic I have difficulty in finding more than two or three cases to show the students each year.

The first case Dr. Mettler described was typical, but the second I should hesitate to class as a case of sclerosis *en plaque*. It certainly has some of the ear-marks of latent brain abscess. One point in regard to the diagnosis which I did not hear mentioned was the pallor of the temporal side of the optic disk, which we have almost invariably found in cases which we were sure were multiple sclerosis. The patients who come to us in young and middle life, showing spastic symptoms together with this ocular finding, and perhaps an intention tremor, I think we are bound to regard as being suggestive of multiple sclerosis. There is no doubt but that the disorder is very much rarer in this country than on the continent.

Dr. J. H. Lloyd, Philadelphia: The abolition of the reflexes and the presence of the Argyll Robertson pupil seem in accordance with the diagnosis of a syphilitic origin. I have seen cases of acute cerebrospinal syphilis which were very hard to differentiate from multiple sclerosis. They sometimes also very closely simulate general paresis.

Dr. F. X. Dercum, Philadelphia: To me multiple cerebrospinal sclerosis has always been a great mystery. It impresses me as a most strange affection, for one reason, because the symptoms shift so remarkably. The French case which I cited presented all of the initial signs of a paresis, and yet when the full picture of cerebrospinal symptoms develop, the mental condition is apparently normal again. We all know how fugacious may be the eye palsies and hemiplegias that occur in multiple cerebrospinal disease. Marburg favors the idea that the affection is caused by some toxin of endogenous origin which attacks the neurilemma, the myelin and last of all the axis cylinder; and yet when we look at a recent plaque, we find that the amount of nuclear infiltration in the affected area is very slight, but in the older plaques we find a dense nuclear infiltration. It seems very strange how a lesion of that kind can give rise to palsies, mental phenomena and other symptoms fugacious in character. I sometimes think that possibly the situation is similar to that of other diseases which are rare in this country and common in Vienna, as for instance, tetany; and the question arises after all, are we justified in excluding among the possible causes some obscure infection?

ILEUS CONSIDERED EXPERIMENTALLY*

ANGUS McLEAN, M.D.
AND
R. C. ANDRIES, M.D.
DETROIT

The term "ileus" literally means a twist, but by usage it has come to mean any condition in which the onward flow of intestinal contents is impeded. Such conditions can be classified into two varieties: First, mechanical ileus, which includes all kinks and twists in the bowel, adhesions constricting the lumen, strangulations by internal and external hernia and any other like physical conditions; second, the adynamic ileus, which simply means a paralysis of a smaller or larger part of the musculature of the bowel. In the former, the cause is evident; in the latter it is undetermined. Just what should cause a paralysis of the bowel we do not know absolutely. The clinical picture, however, with its classical symptoms of pain, vomiting, meteorism and coprostasis is, in each condition, identical. A differentiation between the two is, at least for our present purpose, not necessary. We do not intend to discuss the etiology of this condition but wish to confine ourselves to the cause of death when an uncomplicated case of ileus occurs. Our deductions shall not be from observations made at the bedside. They shall rather be derived from experiments made on dogs, rabbits and guinea-pigs.

About four years ago, while experimenting on intestinal obstruction in dogs to determine whether the anatomic site of the obstruction played a definite part in the time required to produce death, we were somewhat surprised to see that some of the dogs died without apparent signs of peritonitis. Later, at necropsy, we observed this same condition in several cases of postoperative ileus. The interesting question was and is to-day, What is the direct cause of death in these cases? A review of the literature on this subject soon revealed a great variety of opinions. This fact alone proves that the question is an open one.

What, then, is the cause of death in ileus uncomplicated by peritonitis? Is it an auto-intoxication, due to an absorption of toxins from decomposing intestinal contents? Is it a bacteriemia or a septicemia? Is it due to a reduced blood-pressure, an exhaustion or a collapse, brought about by the enormous loss of fluids from the blood- and lymph-system by the increasing intestinal transudation, in turn causing an anemia or a devitalization of important centers in the brain? Or is it a reflex phenomenon due to an irritation of the sympathetic nervous system?

The prevailing impression in regard to the cause of death in ileus is that it is a toxic condition originating from the absorption of bacteria and their poisons or from the absorption of some altered physiologic secretions of the pancreas, liver and intestinal mucosa. If this is so, it ought to be possible in some manner to demonstrate such poisons. With this idea in mind, we began a series of experiments.[1]

The first question to determine was how to produce an experimental ileus. This was done under ether anesthesia in two ways: First, by ligating the bowel with string and then with broad tape; second, by using mechanical appliances to pinch the walls of the bowel together. Each of these methods failed, for if the

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1. Experimental work on animals was done under ether anesthesia; transfusions under local anesthesia.

bowel was clamped or tied tight enough to cause complete obstruction, a pressure necrosis would result with perforation and a subsequent peritonitis; if the compression on the bowel was made just short of causing a pressure necrosis the mucous membrane at that point would retract and as a result there would be no complete obstruction. A narrowing of the lumen of the intestine causing a stricture that would barely admit a small lead-pencil will not impede the flow of intestinal contents in a dog, at least not sufficiently to cause any obstructive symptoms. Failing with simple ligation, etc., the bowel at the point to be obstructed was cut through and blind ends were made by sewing the edges together. These were inverted and in order not to destroy the continuity of the bowel, as well as to prevent leakage, the blind ends were again approximated by a row of Lambert sutures. This method was very satisfactory, as by means of it we could cause the death of the animal without an accompanying peritonitis. (Cultures taken from different parts of the peritoneal cavity were always negative.) Occasionally, an animal would, even with this method, die with an accompanying peritonitis, but such were not included in the experiments to be reported.

The selected point for the artificial obstruction was in the duodenum about 6 or 8 inches distant from the pylorus or about 2 inches distant from the opening of the bile and pancreatic ducts. Such a high point was selected first, because the amount of intestinal transudation must necessarily be less the higher the obstruction, and second, on account of the fact of the lessened danger of peritonitis.

Even with the high obstruction, the intestinal transudation was profuse, as was proved by the repeated vomiting and by the large amount of fluid found post mortem in the dilated stomach.

After obstructing the bowel in this manner, the time in which death occurred in uncomplicated cases was somewhat variable. The dogs lived from forty to 108 hours, the average being about sixty-nine hours. For about forty hours after obstruction was produced the animal would move about. The clinical syndrome in each case was typical. There would be vomiting and after forty-eight hours the animal would lie down most of the time. Muscular tremors localized in certain groups of muscles would appear. A certain muscular stiffness could also be noticed in some cases. The animals would remain between a semicomatose condition and death for two, three and even four days. The overfilled stomach would often partly empty itself, not so much by an act of vomiting on the part of the dog, but more properly speaking by an overflowing.

The temperature of the "ileus dog" was not characteristic. There would be a slight rise during the first and second days following the artificial obstruction, after which it would return to normal and quickly become subnormal. The temperatures taken were all rectal. The normal temperature of a dog is 100 to 101 F. It would rise to about 102 and 103 F. and on the third and fourth days, or just before death, it would not register over 92 F. The pulse was always accelerated somewhat. The pulse-rate ranged from 100 on the first day to 120 and 130 on the third and fourth days.

In a series of five dogs complete blood examinations were made before operation and twice daily after operation. We thought that some definite change in the blood-picture might be noticed but on finding this quite constant, not characteristic and not different from what is observed in other conditions, we abandoned these entirely. There would be a slight leukocytosis at first, then a gradual fall to normal and subnormal.

With this method of producing ileus in dogs established and with a fair idea of the clinical picture this condition assumes in these animals, we next endeavored to demonstrate that some toxic substance, bacterial or otherwise, is the direct cause of death. In this, we will say at the outset, we entirely failed.

FIRST SERIES OF EXPERIMENTS: INJECTION OF DUODENAL AND STOMACH SECRETIONS

The duodenal and stomach secretions, that is, the secretions above the point of obstruction, were tested as regards their toxicity. For this purpose guinea-pigs were used. The secretions were filtered first through porcelain filters. Cultures taken from the final porcelain filtrate still showed the presence of bacilli and cocci. Half of the filtrate of the secretion of each dog was then sterilized by heat at 100 C. for from thirty to fifty minutes. The other half was used without sterilization; 1.5 c.c. of the sterilized and 1.5 c.c. of the unsterilized filtrate were then injected subcutaneously into guinea-pigs. At the point of the injection of the unsterilized filtrate sloughs developed but in no instance did the guinea-pigs show any evidence of poisoning. For three or four days after the injection the guinea-pigs seemed lively and normal. In all ten dogs and twenty guinea-pigs were used.

The amount injected, 1.5 c.c. is a small amount, but 1.5 c.c. for a guinea-pig would, weight for weight, be equivalent to about 360 c.c. (about 12 ounces) for a man weighing 150 pounds. Besides guinea-pigs, one dog, weighing 7 pounds, was used. The intestinal contents were filtered through filter paper, and with the filtrate as a diluent a 4 per cent. tricresol solution was made; 40 c.c. of this solution were then injected subcutaneously. (This amount, for a dog weighing 7 pounds, is equivalent to about 35 c.c. for a guinea-pig and 850 c.c. or about 28 ounces for a man weighing 150 pounds.) This solution, if at all toxic, certainly ought to show its toxicity in some form or other when injected into animals in such large proportions.

SECOND SERIES OF EXPERIMENTS: INJECTION OF SERUM

If the dogs died of toxemia the toxic material, whatever it might be, must be circulating in the blood-stream in order to cause its fatal effects. Whatever is in the stomach or bowel is, so to speak, outside of the body. For this reason the toxicity of the serum of the ileus dogs was tested. The first dogs were allowed to die, but, as after death it was very difficult to withdraw a sufficient amount of blood from which to separate out the serum, the dogs used later were allowed to live forty-eight hours (at which time their symptoms seemed most severe) and then bled to death.

Cultures were made from the blood, serum and peritoneum of all these animals, and in each case in which the peritoneum showed an absence of bacteria the blood and serum gave the same negative result. When peritonitis was present (which animals were not used) bacteria resembling the colon bacillus and *Staphylococcus albus* could also be demonstrated in the cultures taken from the blood of these animals. Such positive results were not, however, constant. The serum of ten dogs was injected into twenty-five guinea-pigs subcutaneously and peritoneally. From 1.5 c.c. to 3 c.c. were used. Whether the intraperitoneal or subcutaneous injection was used seemed to make little difference. The guinea-pigs that received 3 c.c. died; about half of those that received 2 c.c. died and the others remained well and lively; only one of those that received 1.5 c.c. died. In the process of the clotting of blood, the leukocytes, as is well known, are squeezed on and certain enzymes are forced out of their protoplasm. It was thought that the enzymes might have some neutralizing effect on the toxins circulating in the serum, if any such there are. For this reason the blood was prevented from clotting by allowing it to run, while bleeding, directly into a 1 per cent. solution of sodium citrate. Equal parts of blood and sodium citrate solution were used. The mixture was then centrifuged. Of

this mixture of sodium citrate and serum, 4 c.c. were injected into six guinea-pigs. (Serum from three different dogs was used.)

This mixture had about the same effect as did the plain serum. One guinea-pig died; the five remaining continued lively and well. The pigs were observed for about five days and then released.

What was the cause of the varied outcome of these injections of "ileus serum?" Is dog-serum a foreign proteid for guinea-pigs and does the injection of such foreign proteids cause anaphylaxis? If it does, normal dog-serum ought to have the same effect and this, we learned later, is precisely what normal dog-serum will do. Testing normal dog-serum on guinea-pigs we found that over 2 c.c. will invariably kill; that 2 c.c. and even 1.5 c.c. kill sometimes. This is exactly what the serum from the "ileus dogs" had been doing.

Instead of guinea-pigs, small dogs were now used. Of course, the amount of the corresponding injection had to be increased. The equivalents of 2 to 4 c.c. to a guinea-pig weighing 300 gm. were injected. One dog weighing 7 pounds received 40 c.c.; one dog weighing 10 pounds received 50 c.c. and another weighing 14 pounds received 40 c.c.. As far as could be observed these injections of serum from ileus dogs into normal dogs had absolutely no effect. In like manner two rabbits were used with a negative result.

If in ileus there is an absorption of toxins, where are these toxins? Toxins, in order to have a deleterious effect on the body, must reach the central nervous system, at least the respiratory and circulatory centers; and how can they reach these centers if they are not brought into contact with them by the serum of the blood? Can they be contained in the corpuscular elements of the blood? If so the introduction of a large amount of a supposed toxic blood *en masse* into a normal animal ought to produce some symptoms in the normal animal corresponding to those it produced in the abnormal animal from which it was taken. This again we were unable to demonstrate in a third series of experiments.

TABLE 1.—RESULTS IN EXPERIMENTAL DIRECT BLOOD TRANSFUSION

Weight of Dog Before Transfusion, Lb.	Weight of Dog After Transfusion, Lb.	Amount Gained After 50 c.c. or 2 oz. Blood Withdrawn, Oz.	Amount in c.c. of Ileus Blood Normal Dog Received
17	17½	10	300
15	16	18	540
15	16	18	540
13	13¾	14	420
10	10¼	6	180
11	11½	10	300
15	16	18	540
Total..96	101	94	2820
Ave...13.7	14.4	13.4	402.8

THIRD SERIES OF EXPERIMENTS: DIRECT TRANSFUSION OF BLOOD

The carotid artery of an ileus dog was exposed forty-eight hours after the onset of the ileus. The jugular vein of a normal dog was next exposed and 50 c.c. or 2½ ounces of blood were withdrawn. A cannula was then connected from the carotid artery of the ileus dog to the jugular vein of the normal dog and the former bled to death into the latter. The normal dog was carefully weighed immediately before and immediately after each transfusion, for by this method alone we were able to judge just how much "ileus blood" it received. This procedure was repeated seven times. In the first three cases both dogs were anesthetized with ether, but the ether anesthesia, in itself a toxemia, caused vomiting and stupor and therefore interfered with correct deductions. Local anesthesia was then used, and in every case after the transfusion was completed the dog would jump up, be as lively as before and continue in the same state, absolutely normal. The amount of blood the normal dog received varied somewhat. As will be seen from the accompanying table, the average weight of the recipient dog was 13.5 pounds and the average amount of ileus blood he received was 13.4 ounces.

The largest amount was 540 c.c. (18 ounces) and the smallest was 180 c.c. (6 ounces). The normal amount of blood in a dog weighing 13.5 pounds (the average weight of the recipient dog) is about 15.4 ounces. By volume, therefore, the amount of ileus blood (402.6 c.c. —13.3 ounces) the recipient dog received was 2 ounces less than the normal amount of blood contained in that dog.

If the ileus blood which the normal dog received contained some toxic substance surely the reception of such a large amount ought to cause symptoms similar to those observed in the ileus dog. Such was not the case. There was not even vomiting and the dog soon after apparently ate a hearty meal. It might be interesting to observe that the average amount of blood the dog received in the transfusion would, in a man weighing 150 pounds be equivalent to 4½ quarts.

After reviewing these experimental facts can we still hold that death in ileus is due to a toxemia? We have been unable to demonstrate bacteria in the blood, and likewise by injecting the duodenal and stomach contents, by injecting the serum, and, lastly, by direct transfusion of blood, we have also been unable to prove the presence of bacteria or any other toxic substance. Besides this, absorption from the bowel in ileus is considerably diminished. Braun[1] has proved this very conclusively by injections of solutions of strychnin sulphate into the proximal portion of the bowel. He concludes that absorption of the strychnin is less rapid than normal even from the onset of ileus. (He bases his deduction on the intervals between the injections and the appearance of convulsions and death.) In some cases the progressive diminution in absorption is so great, the consequent absorption of strychnin so slow, that the injection of more than a toxic dose of strychnin will not cause convulsions and death. In other words, in spite of the excessive dose of strychnin the animals expire as usual from the induced ileus and not from strychnin poisoning. From these experiments he concludes that in ileus the absorption from the bowel is lessened in all cases and in some stages of the disease is entirely absent.

If an ileus death is not due to toxemia, to what is it due?

A striking thing that was noticed in the animals that died of an experimental ileus is the loss in weight (Table 2).

The dogs lived from forty to 108 hours, an average of sixty-seven hours and during that time the weight lost was from 1 to 5½ pounds, the average being a little over 3 pounds. Some of the dogs had a full stomach at the time of the operation, and if we deduct the weight of the vomitus during the first two hours after the operation, that is, the amount of food débris contained in the stomach at the time of the operation, the average amount of weight lost would be 2 pounds.

For animals weighing on an average of 20 pounds (that is, the average weight of the animal two hours after the onset of ileus), the loss of 2 pounds is quite considerable. It is a loss of about one-tenth of the whole body-weight. This in a man weighing 150 pounds would be the equivalent to a loss of fifteen pounds and that in the short space of two or three days. This loss of weight must be attributed principally to a loss of body fluids that have been discharged through the

1. Braun: Ztschr. f. Chir., 1908, xcvi, 544.

bile-passages and pancreatic ducts and that have otherwise transuded through the intestinal mucosa, and have been expelled as vomitus.

When we consider that the proportion of blood to the other elements of the body is, weight for weight, about one-fourteenth, and that the loss in ileus animals is about one-tenth, all due to the loss of fluids, then we can readily understand how this must have a detrimental effect on all the body functions. It must certainly have an enormous effect on the blood-pressure.

We have not conducted any experiments on the blood-pressure of dogs dying from ileus, but Braun[1] showed very conclusively by a long series of experiments that the death of dogs that died from ileus without a peritonitis differed in no way from that of those that were bled to death slowly. Besides the blood-pressure, which in each case was similar, the general clinical picture, he asserted, except for the vomiting in ileus animals, was also similar. Accordingly, the disordered functionating power of the bowel, with its direct depleting effect on the abdominal blood-vessels and consequently on the whole vascular and lymph-system, causing a steady sinking blood-pressure, and a necessary consequent disturbance in the cerebral circulation, most evident in the circulation of the vital centers, can be looked on as one of the prime factors of the direct cause of death in ileus.

Besides this loss of fluids, the sympathetic nervous system must play an important part. If a severe blow on the solar plexus can occasion death, is it not probable that such grave changes as are caused by ileus in the abdominal viscera, the organs directly supplied by the sympathetic or solar plexus, may set up similar reflexes with a similar fatal result? Of course, concerning the sympathetic nervous system little is known definitely and absolute proof of the effect of ileus on this system is wanting. That such a hypothesis may be correct we will not deny. That a toxemia, however, is the cause of death in ileus is in the face of the experiments above enumerated hardly tenable.

Interesting as it is to know exactly on what factors death depends, such knowledge is at the same time practical. If we look on the disturbed functionating power of the bowel and the failing circulation that results therefrom as the source of the whole clinical picture of ileus, then our efforts must be directed toward these factors. Rational treatment must therefore, first, subdue the distention, which is continually increasing, and at the same time increasing the paralysis of the bowel, and, secondly, it must replace the lost fluid in the vessels. The former condition, the distention, can often be relieved by stomach lavage and enemas, but surely by enterostomy.

An enterostomy lessens intra-abdominal pressure almost instantly. The distention by the gradual accumulation of gas, at first only slight, is the factor which has induced the disturbance in the abdominal blood-vessels; it is also the cause of the transudation of fluids through the intestinal mucosa, the loss of which fluid is in part responsible for the critical condition of the patient. This is overcome in practically an instant and with it the irritation in the paralyzed intestine is allayed and the further influx of blood to the abdominal vessels prevented. The latter condition, the exsanguination that has taken place, can be restored by the free administration of saline solution intravenously, subcutaneously or by the rectum. This is the most stable method of raising blood-pressure. To raise blood-pressure by other medications, such as epinephrin, etc., is of little benefit. They are all too evanescent.

TABLE 2.—AMOUNT OF WEIGHT LOST IN THE COURSE OF AN ILEUS DEATH

Time in Which Death Occurred.	Weight Before Operation.		Weight 2 Hours After Operation.		Weight 24 Hours After Operation.		Weight 48 Hours After Operation.		Weight 72 Hours After Operation.		Weight 90 Hours After Operation.	Weight 108 Hrs. After Operation.	Weight at Death.	
Hours.	Lb.	Oz.	Lb.	Oz.	Lb.	Oz.	Lb.	Oz.	Lb.	Oz.	Lb.	Lb.	Lb.	Oz.
75	26	4	25	8	25		24		21	8	*	*	21	8
108	25		22	12	21	8	21	8	21		19	19	19	
72	15		15		15		14		13		*	*	13	
48	21		20		19		17	8	*		*	*	17	8
48	11		11		11		10	8	*		*	*	10	8
60	14	8	13	8	..	..	12		*		*	*	12	
72	15	4	15		14	8	13		12		*	*	12	
40	44	8	41	4	..	..	38	12	*		*	*	38	12
72	21		21		.	..	20		19		*	*	19	
72	22		21		..	..	20		19	8	*	*	19	8
72	20		19		..	..	17		16	8	*	*	16	8
Total ..739	235	8	225	..	..	..	208	6	..	..	..	..	199	4
Av. 67	21	2	20	1	..	..	18	15	..	..	..	..	18	1

* Dead.

SUMMARY.

1. Death in ileus, as far as we can determine, is not due to a toxemia, i. e., it is due neither to the absorption of bacteria or their toxins, nor to the absorption of some altered physiologic secretion.

2. A depletion of the vascular and lymph-system, causing a grave disturbance in the circulation, especially in the cerebral circulation, is a prime factor in the causation of death.

3. A pathologic change in the sympathetic nervous system, a loss of sympathetic control, is probably contributory.

4. Treatment must, first of all, relieve distention and, secondly, refill the depleted vessels.

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Cancer Not Necessarily a Disease of Advanced Age.—One is apt to associate the occurrence of cancer always with advanced age, and to think that only people of advanced or middle age are likely to be the subjects of carcinoma. But cancer of the cervix is relatively common in comparatively young people. For instance, it is not uncommon at the age of 30, and we even find a certain number of cases—and I have seen a few—in which it occurs under 30 years of age.—Arthur H. N. Lewers in *Clin. Jour.*

SOME COMMON TYPES OF HYPOSECRETION OF THE THYROID

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It is the object of this paper to present a few types of what I consider hypothyroidism, or symptoms of subthyroid secretion. Many of these conditions are not recognized, and patients suffering from disturbed physiology of this gland drift from physician to physician, and are improved only after the diagnosis has been made and the proper treatment inaugurated. Unquestionably, many of these patients are psychopathic and may improve by mental treatment. The thyroid gland is peculiarly susceptible to mental stimulation and to mental depression, and anything that quiets mental excitation will diminish a hyperthyroid secretion of the gland, and anything that removes mental depression will increase a subnormal secretion of the gland.

Some instances of disturbed secretion of the thyroid, a few of which I shall relate, look like pure hysteria, or that disturbed nervous state which we call neurotic, but for the pathology of which we are still searching. Therefore, many will ascribe the favorable results obtained by treatment of the thyroid as simple instances of mental impression.

The physiologic activities which a normal thyroid is expected to furnish may be summed up as follows: It is a necessary stimulant to growth in childhood, both bodily and mentally; it is always a stimulant to mental activity and to proper cerebration; it takes active part in the deposition and distribution of fat; it takes an unknown but important part in nitrogen metabolism, and many times it is an active opponent to nitrogen poisoning; without its activity proper genital development is impossible, and the secretion of the genital organs is imperfect. It takes an active part in the function of menstruation and in the development of the fetus in pregnancy. During the repeated periods of menstruation and during pregnancy it normally furnishes an extra amount of secretion. If it does not do so, the menstrual function is imperfect, the woman during pregnancy is abnormal, and parturition is likely to develop eclampsia and the child is likely to be born a cretin.

The thyroid gland, while present in the young infant, reaches its full development only at puberty, and after 45 begins slowly but progressively to furnish a diminished secretion; the gland gradually atrophies in old age. This atrophy or diminished secretion seems to allow an increased connective tissue development in various parts of the body, notably in many organs; in other words, its atrophy allows sclerosis, and its early atrophy or early insufficiency causes early sclerosis.

The gland has a good deal to do with the condition of the blood. This, however, is not well understood. At times, too much of its secretion causes hemorrhage. At other times, an insufficiency of its secretion allows or causes hemorrhage. This difference in action is perhaps due to the facts that too much secretion dilates the blood-vessels (the gland furnishes a secretion which is a vasodilator), which may allow or cause hemorrhages from mucous membranes, as from the nose or from the uterus, and that subsecretion must sometimes allow a condition of the blood to occur which is not dissimilar to that of hemophilia or to that condition which occurs in patients with hemorrhagic diathesis; in other words, a very aplastic condition of the blood, perhaps a diminished calcium content. It seems, at times, to have something to do with stimulating or encouraging the production of red blood-corpuscles, as in the condition of chlorosis it is not properly functioning.

When it is considered how little secretion the thyroid furnishes per hour or per day, and that this secretion is picked up by the blood as it passes through the normal thyroid, it is not surprising, when there is an enlarged thyroid from normal hypertrophy, such as occurs in Graves' disease, and especially when the blood-vessels are dilated as seen in many such cases, that the blood, acquiring so much more thyroid secretion in a given time, must of necessity produce the intoxication that we see in this disease. An enlarged thyroid with large, dilated vessels, has been estimated to allow the whole blood of the body to pass through the gland at least once an hour. When it is remembered that thyroid feeding may produce prostration and dangerous symptoms, it is easily understood why, in Graves' disease, the blood thus loaded with thyroid secretion causes such serious and sometimes dire symptoms.

As above stated, various mental conditions stimulate or depress the thyroid. This is true of some functions, foods and drugs which act on the thyroid. The stimulants to thyroid secretion are great sorrow, great joy and nervous tension; sexual excitement, genital disturbances, especially uterine, and pregnancy; cerebral stimulants, such as coffee, tea and alcohol; and such drugs as arsenic, iodids, phosphorus, salicylic acid, pilocarpin and, of course, thyroid extract. The idiosyncrasy of some patients to iodids I believe to be due to an extra susceptibility of the thyroid. Depressants to thyroid secretion are: quiet, seclusion and absolute rest; absence of all sexual excitement and all genital irritation; a milk or milk and cereal diet; lime, perhaps in almost any form but especially as the glycerophosphate; most hypnotics, especially bromids and chloral; opium as a quieter of all glandular activity, possibly by quieting the mental activity and stupefying it; and ergot.

I can only express once more my hope that the physiologic chemists will soon be able to differentiate the various elements of activity of the thyroid gland. Histologically, the thyroid may be perfectly normal, and yet it may be furnishing a secretion that is disturbed, i. e., the relation of the different elements to each other is abnormal, and yet, as a whole, the gland will be neither oversecreting nor undersecreting. Such a differentiation would explain the varying symptoms caused by subsecretion and would account for the fact that such symptoms are not improved when the whole gland is fed.

When the very active part that the thyroid gland takes in the life of the female is recognized, it is not to be wondered at that thyroid instability so frequently occurs in women, and that the normal activity of the gland is so often increased at times when it should not be increased, or, on the other hand, that, having been so many times normally hypersecreting during the woman's life and so many times not returning quickly to normal when such hypersecretion is not needed, the gland becomes overworked and finally hypofunctionates. This thyroid instability, at times hypersecreting, at others hyposecreting, can account, as no other one etiologic factor can, for the so-called neurotic women who have at one time an asthma, at another time an urticaria, then an eczema, then a diarrhea, then perhaps joint pains, then unexplainable vomiting, then headaches, then tachycardia; each condition when present

urgently calls for treatment, while improvement is followed by another abnormal condition.

As I propose to offer a few clinical histories of patients who have hyposecretion of the thyroid, I will first present a list of the conditions for which I think subsecretion of the thyroid may be responsible. These are: cretinism, slow growth in children, some types of eczema, some forms of asthma, infantile obesity, chlorosis, amenorrhea, some digestive disturbances, some forms of epilepsy, some forms of gout, depressant hysteria, sometimes the vomiting of pregnancy, some forms of eclampsia, some forms of melancholia, adiposis dolorosa, lipomatosis, myxedema, senility and perhaps Raynaud's disease.

The following case shows the improvement caused by the feeding of thyroid to a defective child:

CASE 1.—*History.*—The patient, a girl, was first seen when she was 3 years old. She was the mother's first child, and though not a cretin, was fat, rather large for her age, very backward about talking, and did not walk until she was 2½ years old. She had four teeth when she was 5 months old, and twenty when 18 months old. She was cross-eyed and pot-bellied, a large eater, and the bowels tended to be loose. She did not tell when she desired to urinate, and could not control the bladder. Adenoids had been removed, but the patient drooled a great deal, and could say but two or three words, and there had been no improvement in this line for three months. She was very nervous and did not sleep well; cried a great deal; and would not play by herself. There was no history of any sickness; she never had had any eruptions or a convulsion. The father and mother were both perfectly well. Physical examination was negative, except as above stated.

Treatment and Course.—The patient was given 1 grain of thyroid substance twice a day for some time, and then once a day for many months. In two months there was marked improvement; she slept well, cried less and grew taller; the abdomen became normal and the disposition improved; she told when she desired to urinate and began to talk more. When first seen she walked incoordinately; this also improved, and in two months the patient fell but very infrequently. In about two years she began kindergarten work and continuously improved in all lines.

I had this child under observation for about three years. The mother of this child, aged about 30, became pregnant two years ago, and lest she should give birth to another child who had subthyroid secretion, I gave her 3 grains of thyroid a day during the last three months of her pregnancy. She gave birth to a male child which weighed 14½ pounds and was fine and perfect in every way.

The types of eczema which are improved by thyroid treatment are those which occur in babyhood and childhood around the orifices of the body and as fissures in the skin. The dry scaly eczemas and the itchings of old age are also benefited by thyroid. Patients with dry skin, with or without powdery desquamation, in all grades up to real ichthyosis, lasting often a lifetime, show improvement after thyroid. The following two cases show the value of thyroid in these conditions:

CASE 2.—*History.*—The patient, a young unmarried woman aged 26, was first seen four years ago. Her skin, especially of the hands, abdomen and legs, since childhood had always been rough, harsh and almost like a mild ichthyosis. The epidermis peeled off in clouds and showers of dust every time she removed her clothing. She had never perspired normally, and was always very cold in winter.

Treatment and Course.—After a month or two of thyroid treatment the skin became softer; the patient said that the epidermic scaling was less than it had been since she could remember. The following winter she felt the cold less than she ever had. Her general health also improved. She was given thyroid on an average of 2.5 grains a day, sometimes more and sometimes less, for a year.

CASE 3.—The patient, a man aged 61, had had more or less general eczema for two years. He suffered terribly from burning sensations and from itching, and always felt the cold greatly. He had received all kinds of treatments. He was put on thyroid, and almost immediately there was less itching; the skin felt better and he did not feel the cold, and in a month there was great improvement. He was then not seen for several months, when the same symptoms were beginning to return. He was put on thyroid treatment and again improved.

Sometimes the etiologic factor in asthma is, as all know, very difficult to determine. Without enumerating the many causes, suffice it to say that occasionally a disturbed thyroid secretion is the cause, and that the securing of an increase in the secretion of the thyroid cures the patient. The following is an example:

CASE 4.—*History.*—The patient, a married woman aged 42, had suffered from a cough, off and on, for eight years; for the last two months before I saw her she had had it steadily. She raised both mucus and pus, but never any blood. The menstruation was regular, but had been scanty for a year. She never had had any severe illness. She had had six children; the youngest was 3 years of age. The family history was negative. She was wheezing with a typical asthmatic condition, and had great dyspnea on the least exertion. She had had a bad asthma attack six months before, the first one she had ever had. She had lost 20 pounds within a short period. The present attack of asthma had lasted two weeks. The sputum was negative as to tubercle bacilli. The thyroid was small. The diagnosis was asthma due to impaired thyroid secretion.

Treatment and Course.—To activate the thyroid the patient was given 3 grains of sodium iodid three times a day; she began to improve immediately; the asthma and cough disappeared and she gained 2 pounds in four days. The iodid was then reduced to twice a day, and in another week she had gained 6 pounds, and was feeling well in every way. The iodid was then reduced to 3 grains once a day, and in a week she considered herself cured. The successful action of this small dose of iodid was as an activator of the thyroid gland.

The next case shows an interesting story of various subthyroid disturbances.

CASE 5.—*History.*—The patient, an unmarried woman aged 40, came to me complaining of abdominal distention, which she had had for three years, and which had become worse during the last six months. All kinds of diagnoses had been made of various intestinal indigestions, disturbed circulation, etc., for which she had been treated. The bowels moved three times a day; this had been a habit for years, and she did not call it a diarrhea. Menstruation was regular. She had some palpitation and some little dyspnea, and at times she thought she had an asthma; she could not sleep well at night on account of it. She had had a slight cough for a good many years, frequently raising mucopus; she was subject to hay-fever and asthma in the summer. She felt weak all the time, and said that her feet and legs occasionally swelled at night. She had lost weight. The pulse was slow, down to 54. The lungs were asthmatic; heart normal; abdomen negative, except that it was tympanitic. The urine was negative. Diagnosis, hyposecretion of the thyroid.

Treatment and Course.—The principal treatment was thyroid, at first 5 grains a day, then 2½ grains a day, then 2½ grains every other day; ten days from the time she started the treatment the patient stated that she had not been as well in every respect for three years.

The following case is interesting as showing a combination of asthma and eczema.

CASE 6.—*History.*—The patient, a girl aged 6, was subject to recurrent colds, with asthma. She had somewhat enlarged tonsils, was pale, a poor eater, and had a more or less constant peculiar skin eruption; it was not eczema and not itch, although the first appearance looked like scabies. The child never perspired. The diagnosis was insufficient thyroid secretion.

Treatment and Course.—The patient was given 1 grain of thyroid a day for some weeks. Very soon the eruption and asthma disappeared and the child improved and became well. I did not see her again for one and one-half years, when she again had an asthma. At this time I gave her 3 grains of sodium iodid three times a day to activate the thyroid gland. She did not improve. The asthma was no better. I gave her 1.5 grains of thyroid once a day, and the asthma quickly disappeared. I did not see her again for two more years, when she had the same recurrence of asthma. Thinking that she was old enough now for the iodid to stimulate the thyroid, I gave her 3 grains of iodid three times a day. This acted as I expected, and the asthma quickly disappeared.

Amenorrhea is very successfully treated with thyroid; chlorosis will often improve as rapidly with thyroid as with iron or arsenic. In fact I know of no emmenagogue which acts as well as thyroid. Whether in large doses it could cause abortion, I do not know, but certainly in delayed menstruation in young girls and in amenorrhea at almost any age, especially if there are other symptoms of insufficient thyroid secretion, as putting on of weight or drying of the skin, thyroid is almost a specific.

It is rarely recognized that a number of digestive disturbances can be due to insufficient thyroid secretion. It is recognized, however, that hypersecretion of the thyroid can cause such disturbances. These disturbances are mostly diarrheas. The exact reason that insufficient thyroid secretion causes indigestion, and especially intestinal indigestion, is at present difficult to understand. The following is a very interesting instance of the successful use of thyroid:

CASE 7.—*History.*—The patient, a boy aged 8, was brought to me two years ago with the history that three and one-half years before he had had an acute intestinal attack of some kind with which he was seriously ill for months. Since that time, off and on, at intervals, he had had these intestinal upsets, with bad diarrhea, and at this time frequent involuntary movements. He also at these times had albuminuria. There was a peculiar pigmentation on the hands and neck and a little on the face; also there were some leukodermic spots on different parts of the body, especially the neck and hands. He had also some of this dark pigmentation on his thighs and lower abdomen. All sorts of diagnoses had been made and all sorts of treatments had been instituted, all more or less unsuccessfully, although sometimes these diarrheal attacks seemed to become better under some treatment, only to recur again. The heart, lungs, abdomen and urine were negative. A few of the cervical glands were palpable.

Treatment and Course.—The patient was given thyroid, and electric treatment to the imperfect anal sphincter. The sphincter soon became competent, and the boy improved in every way; the diarrheal attacks entirely disappeared, and after having been for years on a rigid diet, he was now allowed all kinds of assorted food. The pigmentations and leukodermic spots gradually disappeared, and the patient became well. The thyroid treatment in small doses was continued for some months and then stopped, and in April, 1911, a year after I had first seen him, the patient began to have a little trouble again in the way of diarrhea, followed by constipation; also there were some abdominal pains, and puffing and swelling in different parts of the body, especially under the eyes. He had little irregular temperature attacks; sometimes palpitation of the heart. He was again given thyroid, and again he improved, and the pigmentations, which had more or less returned again, faded. The boy, with slight disturbances, is constantly improving, growing and doing finely. The last time I saw him was in December, 1911.

If epileptic attacks occur at the menstrual periods, or at regular four or five-week intervals during amenorrhea, or develop at the menopause, disturbance of the thyroid is often the active or exciting cause, and the disturbance is generally a subsecretion. The reason that thyroid has been used unsuccessfully so many times in epilepsy is that the cases have not been properly selected. When thyroid is properly administered in the above-described class of cases, many times improvement and sometimes absolute cures take place, and any treatment that is successful without the use of enormous doses of bromids is certainly good treatment. The following is a case of great interest to me:

CASE 8.—*History.*—The patient, a girl aged 17, first came to me in April, 1904, with the history that from July, 1903, she had had peculiar sleeping attacks in which she would be almost in a comatose condition for two or three days. These attacks kept increasing in frequency, averaging at first once a month and now twice a month. In the last attack or two she had shown some stiffening, but had never had any convulsive movements, although she had made slight noises and had a little frothy mucus appear at the mouth. In the last attack she slept but twelve hours. After these sleeping attacks she could not hear for several days, and could not see well for two or three days, at times being almost blind; she did not recognize her family for several days. She lost her voice for nearly a week, and during these days did not recognize her own clothing, jewelry, etc. In some of these sleeping periods she did not appear even to breathe; she took no nourishment and no liquid, and at times passed no urine for from two to three days. Menstruation began when the patient was 14 and was slightly irregular, generally occurred every five weeks, and lasted four or five days. The sleeping attacks had generally occurred just before the period. Physical examination was negative in every respect, except that there was a slightly movable right kidney, and the thyroid gland seemed enlarged, though evidently subsecreting. A diagnosis of epilepsy and catalepsy was made, and the fact that these attacks occurred just before the menstrual period and were worse if the period was delayed, gave the indication for treatment, viz., to hurry menstruation and to antagonize whatever toxins might be in the blood at that time. Thyroid is an antitoxin, probably, of protein poisons.

Treatment and Course.—The patient was given thyroid from April, 1904, and she never had another one of the sleeping attacks. In June, she had a typical slight epileptic attack. In January, 1905, she was still doing finely, but had had two attacks of losing herself for from two to ten minutes after slight injuries; in other words, *petit mal* attacks. In May, 1905, having stopped the thyroid for some months, she again had several epileptic attacks in one day, followed by a prolonged sleep. Thyroid again stopped this. She married in August, 1905, and was not seen from that time until November, 1910, during which time she had had no recurrence of fits or sleeping attacks, but she now complained of hot flashes, fainting periods and some irregular swellings. She was again given thyroid, with small doses of iodid, and I have not seen her since, but I feel sure that she would have come to me had there been any recurrence of the trouble.

CASE 9.—Five years ago the mother of this patient, aged at that time 44, had an attack of what was called rheumatism, and was sick for a number of weeks in a New York hospital. The rheumatism was located in the legs, and there were peculiar hemorrhagic spots all over both legs. She also, while in the hospital, had recurrent bleedings from the kidneys. She had been given the usual treatments, but receiving no relief, she came to me, hardly able to travel. Knowing the history of the daughter and the tendency of thyroid disturbances to run in families, I decided to give her thyroid. The bleeding ceased within two days, and the petechiæ rapidly

disappeared, as well as the rheumatic symptoms, and a number of years after there had been no recurrence.

The exact relation of thyroid secretion to the normal plastic condition of the blood is not known. Ordinarily, feeding thyroid will stimulate bleeding possibly by causing a dilatation of the blood-vessels, particularly of the uterus and nose, but instances not infrequently occur when the feeding of thyroid in hemophilia stops the bleeding. An interesting instance of its action was in an overweight woman at the menopause who, in spite of all the ordinary treatments, including calcium, epinephrin, ergot, atropin, digitalis, etc., etc., bled profusely from the nose, gums, ears, stomach, intestines and bladder; the urine passed seemed almost pure blood. The woman was nearly exsanguinated. This was four or five years ago, and rabbit- or horse-serum injections were not tried. From the history of having put on a good deal of weight and of sleepiness, I advised the administration of thyroid. The patient was given large doses of thyroid, and in twenty-four hours the bleeding ceased and did not recur until a week later, when, the thyroid having been stopped for two days, there was a slight recurrence. On the readministration of the thyroid, the bleeding again ceased.

Subsecretion of the thyroid can cause mental depression to all intensities, from simple apathy and indifference through depressant hysteria to actual melancholia. Administration of thyroid to such patients always causes improvement. Activation of the thyroid with small doses of iodid in cases of mild subsecretion of the thyroid causes cerebral stimulation and satisfactory improvement. The obverse of this is well known, viz., that the administration of either thyroid or iodid in Graves' disease will always increase the disturbance.

The most frequent of all hypothyroidism instances are those associated with added weight. These symptoms grade from the simple putting on of flesh after 40, especially in women after the menopause, to adiposis dolorosa, lipomatosis and myxedema. The symptoms of typical hypothyroidism are scanty or absent menstruation, fat deposits on the breasts, upper arms, at the clavicles, hips, and upper part of the thighs, and, at times, the abdominal apron which may hang over the pubis. Other associated symptoms are drowsiness, slow pulse, dry skin, puffiness of parts of the body at various times and, perhaps, slow mentality. Instances of this type of patient are so frequent that it is hardly necessary to present clinical histories. Other symptoms of subthyroid secretion are puffing under the eyes and of the hands and feet, without kidney or cardiac lesion. This puffiness is not a real edema and may occur asymmetrically or symmetrically and at irregular times of the day; it is often worse in the morning. The skin is likely to be dry in these cases. Sometimes a glycosuria is due to insufficient thyroid secretion, as it may also occur in hypersecretion.

The following case is unique:

CASE 10.—*History.*—The patient, a young girl, aged 16, was seen by me in consultation in 1905. The family history was negative. The patient had had convulsions when she was teething; was backward in school; began to menstruate when she was 14, but had not menstruated during the last year. She had attacks of fever, which had begun about a year before at the time the menstruation ceased. They lasted about nine days, to recur again in about three weeks. At the onset she had chills, headache, loss of appetite, pain in the abdomen, loose bowels and insomnia. She had been treated for typhoid fever, for intestinal tuberculosis, malarial fever and hysteria. During these fever attacks the temperature went above 103, the pulse sometimes up to 130, and the respirations up to about 30. A diagnosis had also been made, on account of enlarged glands in the neck and enlarged spleen, of Hodgkin's disease, and the patient had been given repeatedly long-continued doses of Fowler's solution.

Examination.—It was during one of her fever attacks that I saw her. The glands of both sides of the neck, and also in the axillæ and groins, were somewhat enlarged; the pupils reacted slowly; the conjunctival reflexes were present; the heart and lungs were negative; the spleen was enlarged almost to the umbilical line and tender on palpation; the liver was apparently normal in size; the ovaries were not tender; the knee-jerks were exaggerated. The urine and the blood were negative. Just preceding one of these attacks of fever the mother said that the girl was listless, but still restless, and she (the mother) would know that a fever attack was about to begin. With this history and the repeated improvements and the continued recurrences it was impossible to make a definite diagnosis. On the other hand, the very fact of the periodicity and of occurrence about the time of the expected periods and that there was amenorrhea suggested the possibility that if the patient menstruated regularly, she would not have these attacks of what was apparently a toxemia.

Treatment and Course.—The patient was given 5 grains of thyroid twice a day. In ten days she began to menstruate and was feeling well. The next month she menstruated again. Under thyroid medication, given intermittently, she menstruated every month until April, 1906, when she ceased to menstruate. Then in May, when I saw her again in consultation, she again had a temperature of 102; abdomen was tense; spleen was enlarged; glands of the neck tender. She was given thyroid, and in a few days began to improve. In a few days the spleen and the glands were less tender and smaller, the temperature disappeared, and she became apparently well, and menstruated normally in June. This was in 1906. Her physician tells me that she was well until July, 1907, when, following a tonsillitis, the spleen again became enlarged and she had slight recurrence of the above symptoms. She was given thyroid, and in two or three days was again normal. She was well when last heard from, in March, 1911.

Lest I seem to advise the frequent and careless use of thyroid, please let me urge that, when it is needed, but small doses be used, as it is potent for harm. When given to patients who should not receive it, it will make their symptoms worse, and sometimes but a little of it will push a wavering thyroid gland to hypersecretion and Graves' disease.

It should be added to the list of poisons, and the laity should not be able to obtain it without a physician's prescription. Though much of the thyroid substance on the market is not active, a little coincidentally administered iodin, as an iodid, will render it active.

252 York Street.

Cancer Not Necessarily Painful.—The symptom which more preeminently characterizes the early stages of cancer of the cervix is bleeding, bleeding between the periods, or some discharge containing blood in between the periods. At that time there is no pain whatever in cases of cervical cancer. Remember that, because the public mind associates pain with cancer, and the patient is apt to think because she has no pain that therefore, no matter what the trouble is, it is not likely to be cancer. But there is no more dangerous fallacy. For a long period, in fact, as long as the disease remains limited to the cervix itself, the patient has no pain at all. It is not until the disease begins to spread beyond the limits of the cervix that you begin to find the patient has pain. So do not be misled. Any unexplained bleeding, any bleeding, occurring between the periods—if we take a patient during menstrual life, or still more definitely, any bleeding occurring after a definite menopause has been established—is extremely suggestive of cancer.—Arthur H. N. Lewers in *Clin. Jour.*

THE IMPORTANCE OF CAREFUL INVESTIGATION BEFORE REMOVING OR DESTROYING ORGANS

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Many complex problems of importance to the welfare of the patient present themselves to the physician and they are usually of such nature that he must face them, assume a definite responsibility in the matter and be guided by his best judgment. In the management of the so-called self-limited diseases, such as typhoid fever and the exanthemas, the physician realizes that a large percentage of patients make a fairly good recovery, if properly nursed, without his resorting to radical measures. But too frequently the question arises as to when surgical interference involving the destruction, removal or permanent impairment of function of any important organ of the body is justified. The problem may involve the removal of an eye, the amputation of an arm or leg, the extirpation of a kidney or the interpretation of a group of atypical signs or symptoms; in these cases the responsibility is well defined, but regarding the measures for relief there may be some question.

It is important to consider well the relative value of an organ or member to the individual before resorting to radical surgical methods; some persons get along very well with one arm or with one eye and may even continue to be self-supporting and able to maintain those dependent on their efforts, while another individual's occupation is of such character that his very existence may depend on as small a matter as the preservation of the thumb and forefinger of his right hand. Not only do the various organs have a different relative value to individuals following the various lines of industrial pursuits, but different physicians seem to estimate their value and usefulness from altogether varying points of view. Thus an oculist may not attach much importance to the loss of an eye, or a surgeon may conclude that one kidney can as well perform the kidney function as can two and either oculist or surgeon may, with little or no investigation as to the possibilities or advisability of the proposed surgical procedure, remove a very important organ, when if the matter had been carefully inquired into it might have been determined that some other less destructive process offered the same chance of cure as did the radical operation. Operations making a change of vocation necessary or otherwise altering and interfering with an individual's daily routine, which perhaps has taken years to establish, are most impressive to the general practitioner because he sees the pitiful efforts of adjustment to meet the new requirements and it is he who is called on to assist in such attempts. He views the whole matter from the standpoint which forever teaches him the importance of knowing positively that the proposed operative procedure is justified; that it will actually correct a condition and restore function; and that it is the only means that will bring about relief. Especially is this true when the organ in question is the only one that will perform a function, or is one of the paired organs whose fellow may at some subsequent time become diseased and fail properly to meet the increased demands made on it by reason of the loss of an organ.

We encounter from time to time a group of symptomatic disorders—e. g., neuralgia, vertigo, and headache—that are often confused with the real organic diseases. The incorrect interpretation of these symptomatic conditions may lead to the removal of an organ whose loss will permanently cripple the individual as a member of society or as a producer, without actually benefiting the patient. Such a case came under my observation recently, the points of which I think are worthy of mention.

The patient was a merchant, aged 70. The family history was negative, as was the personal history previous to the present condition. The health of the patient was good up to January, 1907, at which time he had an attack of pneumonia. During his convalescence, about the first week in February, while sitting in a chair by the fireside he collapsed and fell to the floor. He retained consciousness, understood his surroundings and could speak, but his left arm was weak and the left side of his face was paretic. It was necessary to carry him to his bed. Thirty minutes after his collapse he developed a severe pain in the left eyeball. He continued bedfast and helpless for two months; the pain in the eye became worse and spread to the distribution of the supra-orbital nerve. One year later, in February, 1908, after trying all sorts of treatment to relieve the pain, he had this sound, seeing eye enucleated. For about three weeks the pain was not so severe, but after this time the infra-orbital branch of the fifth nerve became involved and the pain again became unbearable.

In July, 1911, he was referred to me. He complained of pain in the distribution in the supra-orbital and infra-orbital nerves. His general health was bad; his blood-pressure was about 245 as indicated by the Faught apparatus, and a systolic murmur could be distinctly heard at the apex of the heart. After a few weeks of observation and symptomatic treatment, during which his blood-pressure decreased and his general health improved, we decided that the best thing to do was to extirpate the offending nerves which was accordingly done, under local anesthesia, by Dr. Howard Hill. We had no difficulty in doing the work thoroughly because the orbit was empty and furnished ready access to regions usually reached with considerable difficulty. The removal of the supra-orbital and infra-orbital nerves entirely relieved the patient except for a few burning areas on the side of his nose and edge of the lip. One year after operation the patient called for examination. His general health was fair; at times he has sharp shooting pains on the left side of his nose and lip. The area supplied by the removed nerves is anesthetic to the pin-prick though the pressure sense has been retained. Heat and cold tests are interpreted by the patient as pressure in areas formerly supplied by the supra-orbital and infra-orbital nerves.

It is not clear to me what took place in February, 1907, at the time the patient collapsed. I am inclined to think, however—considering his age, the arteriosclerosis as evidenced by high blood-pressure, systolic murmur and hardness of the peripheral arteries—that he had a vascular lesion involving some of the small branches of the internal carotid artery which supplies the gasserian ganglion. The sudden onset of pain in the eye and the later involvement of the other branches of the fifth nerve seem to make this conclusion logical. Just what the indication was for the removal of a sound eye in this case I cannot understand. It would be just as reasonable to remove a testicle because of the severe pain at times found in this organ in kidney disease, or to amputate the hand to rid the patient of the peripheral evidence of angina pectoris. That I am justified in making this conclusion must be evident from the relief obtained by the extirpation of the supra-orbital and infra-orbital nerves, which could have been done without destroying a competent important organ.

30 East Thirty-Fifth Street.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

CASOID DIABETIC FLOUR.—Casoid Diabetic Flour is a mixture of the albuminoids of wheat (gluten) and of milk (casein), having approximately the following composition: Proteins, 84.5; fat, 1.4; mineral matter, 2.5; cellular fiber, etc., 0.7; water, 10.8.

The milk albuminoids (casein) are obtained from milk by the usual precipitation process, the wheat albuminoids are obtained by washing wheat flour and the two are then mixed.

The preparation is white, flaky, free from odor and has very little taste.

Actions and Uses.—It is employed in cases in which carbohydrates are contra-indicated, such as diabetes, amylaceous dyspepsia, etc.

The nutritive value of 500 gm. of casoid diabetic flour corresponds to 1798.48 calories, of which 1753.48 are due to protein and 65 to fat. The same quantity of milk represents 360 calories, of which 84 are due to protein and 177.6 to fat.

Manufactured by Callard, Stewart & Watt, Ltd., London, England. (Thos. Leeming & Co., New York). No United States patent. U. S. trademark No. 238,836.

PARATOPHAN.—Paratophan is methyl-atophan, 6-methyl-2-phenyl-quinoline-4-carboxylic acid, $CH_3.C_9H_4N.C_6H_5.COOH$, $6:2:4 = C_{17}H_{13}O_2N$.

6-methyl-2-phenyl-quinoline-4-carboxylic acid was described by Doebner and Giesecke in 1887 (*Annalen der Chemie*, Liebig, Vol. 242, p. 296) who prepared it by warming together pyroracemic acid, benzaldehyde and p-toluidin in alcoholic solution.

Paratophan is a yellow crystalline powder melting at 228°, soluble in alcohol, ether, chloroform and alkalies, but insoluble in water. It has a slightly bitter taste and a faint odor.

If paratophan be dissolved in concentrated sulphuric acid a light yellow solution results, which yields a light yellow precipitate on the addition of bromine water.

If ferric chlorid solution be added to an alcoholic solution of paratophan, a brown color is produced.

If paratophan be heated above its melting point carbon dioxid is liberated and methyl-phenyl-quinoline, $CH_3.C_9H_5N.C_6H_5$, melting at 68°, is produced.

Actions and Uses.—See Atophan (New and Nonofficial Remedies, Journal A. M. A., March 2, 1912, p. 633).

Dosage.—The same as Atophan.

Manufactured by Chemische Fabrik auf Actien—Vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). No U. S. patent or trademark.

Paratophan Tablets.—Each tablet contains 0.5 Gm. (7½ grains) paratophan.

Therapeutics

DISTURBANCES OF THE HEART

(Continued from page 1543)

ACUTE PERICARDITIS

As this inflammation is generally secondary to some other condition, its treatment cannot be positively outlined. Also, it is often a terminal condition, and in such instances the results of treatment are of necessity *nil*. The most frequent terminal cause is nephritis; other terminal causes are pulmonary tuberculosis, adjacent abscesses, cancer or other growth.

The most frequent infectious cause is rheumatism; other infectious causes are cerebrospinal fever, typhoid fever, acute miliary tuberculosis, pneumonia and sepsis. Accidental causes are traumatism and an adjacent inflammation of the pleura.

The result of an inflammation of the pericardium may be a fibrous exudate, or an exudate which is both serous and fibrous, or one in which pus is present in considerable amount.

The onset of pericarditis may be more or less acute, or it may commence insidiously. For this reason, during severe illness, and especially in those diseases which are known to have pericarditis often as a sequence, frequent examination of the heart should be made as a routine procedure.

In acute pericarditis absolute mental as well as physical rest is essential. Even if the patient does not appear to be seriously ill and has not much fever, he should not be allowed to have visitors, to discuss business matters or to carry on any conversation, however little exciting. Anything that increases his heart-beat increases the irritation of the inflamed surfaces of the pericardium. He should not be allowed to sit up, either to eat or to attend to the calls of Nature. These rules are imperative, and when they are followed the pain is less, the heart beats less rapidly, is less hampered by pressure from whatever exudate may be present, and the adhesions which are likely to form will be less in amount and less serious for the future work of the heart.

If there is pain or much aching in the cardiac region, it tends to disappear with the exudate, if such is to occur, in the same way as the pain of pleurisy. If there is much exudate, the pressure on the heart of course increases, the cardiac dulness enlarges, dyspnea occurs and even perhaps later cyanosis. As the exudate accumulates the patient must lie higher and higher in order that the fluid may gravitate to the lowest part of the sac and give the heart the greatest ability to work. Reflex pains may occur from disturbances of the pneumogastric nerve, or from the weight and pressure of the enlarged and heavy pericardium. Reflex vomiting may be a troublesome and distressing symptom.

Acute pericarditis occurring in rheumatism, in acute infections and from simple injuries tends to recovery. In dry pericarditis with serious adhesions, or if adhesions occur as a sequence of acute pericarditis, the future prognosis is bad, as myocarditis may develop and sudden death or acute dilatation may occur. As above stated, if pericarditis develops during the progress of chronic disease, such as interstitial nephritis, or during sepsis, or from abscesses or growths in the region of the pericardium, the prognosis is bad.

The treatment, of course, depends largely on the cause of the pericarditis, as, if the cause is one of those just enumerated in which the prognosis is dire, any treatment directed toward the pericardial inflammation is almost useless. The pericarditis under these conditions will be more or less benefited, if at all affected, by the treatment directed toward the cause.

The indications for treatment in all other instances are:

1. To attempt to abort the inflammation.
2. To stop the pain.
3. To limit, if possible, the amount of exudate, and to diminish the exudate already present.
4. To diminish the rapidity of the heart and to strengthen it.

1. Abortive Treatment.—For many years bloodletting was considered of the greatest importance in the early treatment of this disease; but owing to the fact that, except from traumatism, pericarditis rarely occurs except as a sequela of acute disease after the patient has been sick a long time, or as a terminal condition in a patient who has long been chronically diseased and therefore has already lost more or less strength, venesection has been nearly abandoned. Leeches may be used over the region of the pericardium, and cups are sometimes used. Dry cupping is more frequently used. These measures sometimes seem to reduce the inflammation, and certainly often relieve pain, but the most valuable local treatment is cold, which may be applied either in the form of an ice-bag or by a small coil through which ice-water is caused to flow by siphonage. Cold may be applied more or less continuously, depending on the sensations of the patient. The bag or ice-cap must not be overfilled and must not be heavy, as the patient often cannot stand pressure over the pericardium. Sometimes the relief from pain and the diminution of the number of the heart-beats is marked, and from this reason alone the cardiac inflammation may be inhibited. If cold applications are not tolerated by the patient (and they often are not in children) warm applications may be used, such as flax-

seed poultices, or cloths wrung out of hot water and covered with oil-silk, and the pain will often be relieved thus. While hot applications would not tend to abort the inflammation, they probably do not tend to promote it.

A diminished diet, of small amount at a time, and such purging as the patient's strength will allow are essential in attempting to curtail the seriousness or amount of this inflammation.

Just what can be done locally or generally to combat the inflammation actively must depend on the cause. When the inflammation occurs as a complication of acute rheumatism, it has been suggested that salicylates, which do not inhibit rheumatism and may be depressant to the heart, should be stopped if they are being administered; but if the salicylates are apparently improving the inflammation in the joints, pericarditis would not contra-indicate their continued use. Except in large doses, salicylates probably do not depress the heart. In pericarditis it is perhaps well always to administer an alkali in some form unless otherwise contra-indicated, whether the cause is rheumatism or not. A diminished alkalinity of the blood would always increase the likelihood of an augmented amount of pericardial or endocardial inflammation. The blood must be kept strongly alkaline. It is possible that one of the reasons why pericarditis or endocarditis occurs so frequently in serious prolonged fevers is that the patient has not eaten enough cereals or other carbohydrates, and the system has become more or less endangered by acidosis. In other words, carbohydrate starvation is inexcusable with our present understanding of the danger from acidemia and even from a diminished amount of alkalies in the blood.

The causes of pericarditis being so varied, any antitoxin treatment or any vaccine treatment could be indicated only if the cause of the inflammation rendered the serum or vaccine advisable.

2. Stopping the Pain.—Nowhere else in the body should pain be so speedily combated as when it occurs in the region of the heart. Morphin, with or without atropin, as deemed best, should be administered hypodermatically in the amount and with the frequency necessary to stop the pain and quiet the restlessness. As above stated, the frequent need for morphin may be prevented by use of the ice-bag. Morphin might even be considered an abortive treatment, as nothing tends so much to inhibit this inflammation as the quietude of the heart caused by the absence of pain, the production of sleep and the prevention of restlessness, muscle twitching and muscle movements. In other words, the more quiet the patient is, the more quiet is the heart.

If for any reason morphin is contra-indicated, and if pain is not a symptom, the patient's nerves may be quieted and rest may be given by sodium bromid, or by veronal-sodium, the dose of the former being 2 gm. (30 grains) two or three times in twenty-four hours, according to its action and the necessity for it, and the dose of the latter 0.2 gm. (3 grains) once in six hours, if deemed necessary.

Especially if there are cerebral symptoms, as typically presented in cerebrospinal meningitis, and especially if the arterial tension is low, the subcutaneous administration of an aseptic ergot will quiet the central nervous system, increase the blood-pressure, quiet the heart and prolong the action of a single dose of morphin. It is the best plan to administer ergot deep into the muscles, with the deltoid as the place of choice. If the skin is properly cleansed, the syringe clean and the preparation of the drug aseptic, no inflammation or abscess will ever occur. If there is any painful swelling a wet alcohol dressing to the part will soon relieve it. The frequency with which ergot should be so administered depends on the results and the indications. Once in twelve hours for several doses is generally the best method for its use.

3. The Exudate.—When a fluid exudate into the pericardium has occurred from inflammation — that is, when it is not an exudate from disturbed kidneys or circulation — it will continue to increase to some extent in spite of any treatment. Just how much this exudate may be prevented by the use of small blisters over or around the heart, and just how much watery stools and diuresis may prevent the advance of the exudate is difficult to determine. Small blisters, properly applied, have many times seemed to be the determining factor in stopping the increase in the fluid, or to have been the starting cause of the resorption of the exudate.

The amount of purging that should be caused by saline cathartics such as sodium sulphate (Glauber salt), potassium and sodium tartrate (Rochelle salt), or the official compound jalap powder cannot be declared dogmatically. Saline purging should be governed by the character of the circulation. If the heart is strong, the pulse not weak, and the blood-pressure good, nothing is more valuable in the above condition. Portal depletion is of great advantage, especially if the amount of liquid ingested is kept as low as possible, so that the blood-vessels may become thirsty and thus tend to absorb an exudate wherever they find it. Much harm has been done, however, and death has been caused by saline purgatives in endeavoring to relieve edemas from a failing heart or to prevent a uremia from kidney inflammation. The depression following such purging is often serious. If the circulation is weak, dependence should be placed on purgation by some of the simple vegetable cathartics or a small dose of calomel. While it is advisable to give a saline in concentrated solution, it should not be so strong as to cause vomiting. With our better understanding of magnesium absorption and the depressant effect of magnesium on the nervous system, magnesium salts should not be used in serious conditions.

Diuretics often do not act well when most needed. The simplest diuretic is potassium citrate, given in wintergreen or peppermint water, in doses of 2 gm. (30 grains), three or four times in twenty-four hours. One or more of the vegetable, non-irritant diuretics may be tried if preferred. If the sickness preceding the pericarditis was not a long fever, and the heart muscle is considered in good condition, digitalis in small doses may be the best possible diuretic. Incidentally it will slow the heart, if there is not much elevation of temperature, and will give some cardiac rest.

Although the patient's diet should be limited in bulk, and especially in amount of liquids, good nutrition should soon be given. Systemic weakness certainly tends to increase the exudate; systemic strength aids in absorption of the exudate.

Iron is early indicated, and nothing is better than 5 drops of the tincture of chlorid of iron in a little lemonade or orangeade, administered once in eight hours.

If the exudate tends to decrease, it perhaps may be hastened by the local application of tincture of iodin over the cardiac region. Also the administration of small doses of an iodid, as 0.3 gm. (5 grains) of sodium iodid, given in plenty of water three times a day, is useful. An iodid circulating in the blood seems to aid absorption. It has long been believed that iodin in the

blood tends to promote absorption of thickened, left-over material from exudates, and to prevent the formation of strong fibrous adhesions. Until our knowledge is more exact in this matter, it is advisable to use iodid as suggested. If the above-named dose is not tolerated, less should be given.

If in spite of all the therapeutic measures suggested, the fluid increases and the pericardium becomes more distended and the heart's action more labored, paracentesis must be done. The point where the aspirating needle should be inserted into the pericardium depends somewhat on the conditions in each individual case. It is often best to insert an exploratory needle first. This will determine the fluidity and character of the exudate. If pus is found, a more radical surgical procedure than simple paracentesis must be done immediately. The point of puncture for aspiration most frequently chosen is in the fourth or fifth intercostal space, about an inch to the left of the sternal margin. Paracentesis is also often done in the region of the normal apex-beat. The position of the patient is determined by his dyspnea; he should lie in the position most comfortable for him. The fluid should be withdrawn slowly and the pulse carefully watched. The withdrawal of a small amount of fluid may later seem to be the starting cause of resorption of the rest of the fluid. On the other hand, it may often be not of more value than the simple removal of the immediate pressure, the fluid may again accumulate, and more radical surgery must be performed.

4. To Strengthen the Heart.—Most of the methods of meeting this indication have already been stated, namely, absolute rest; absolute quiet; the use of the bed-pan; any movement that must be made should be deliberate; the nurse and other attendants must be quiet; necessary conversation must be brief, and every method must be used to quiet and prevent the heart's action from becoming rapid. The food taken should be small in amount and non-stimulating; that is, no tea or coffee should be given, and nothing too hot or too cold. Movements of the bowels should be caused with the least possible general disturbance. If the patient does not sleep, he must be made to sleep. The whole body and the nervous system must have periods of rest. If the heart is very weak, small doses of morphin may be used. If the heart is not weak, bromids or chloral may be given. If the blood-pressure is high, such hypnotics will lower it, or if the heart is strong and the condition does not contra-indicate it, aconite may be used in small doses, for a day or two, unless the fever is high and it seems advisable to use one of the coal-tar antipyretics, which will of themselves reduce the blood-tension and the heart activity.

As above stated, pain must not be allowed. Sometimes, when there is thought not to be myocardial degeneration, or the heart has not been injured by prolonged fever, digitalis in small doses may slow the heart and act for good.

Convalescence.—The convalescence should be prolonged as in any other cardiac inflammation. The patient should be given more and more nourishing food, and the iron tonic may be changed to a capsule containing 0.05 gm. of quinin and 0.05 gm. of reduced iron, three times a day.

It is a question as to when patients convalescent from pericarditis should be permitted exercise. It has been thought that gentle movements and possibly exercise, sooner than theoretically justified, might cause the heart to beat a little more actively and possibly prevent the formation of tight adhesions between the two layers of the pericardium. Whether such activity of the heart will prevent adhesions is something that has not been determined.

The small doses of sodium iodid, perhaps 0.2 gm. (3 grains) two or three times a day, should be continued for some time. Iodid in this dosage does no harm and may do a great deal of good.

ADHERENT PERICARDITIS

Following dry pericarditis or pericarditis with an exudate, especially when the exudate is fibrinous in character, the fibrous substance which is not absorbed or resorbed may develop into connective tissue, and the two pericardial surfaces become permanently grown together, causing the so-called adherent pericarditis. These adhesions between the two surfaces of the pericardium may be general throughout the entire pericardial sac, or they may be limited to some one or more parts of the pericardium. Perhaps one of the most frequent points of adhesion is the anterior part of the pericardium, while the apex is the part most likely to be free even when other parts of the pericardium have grown together. This freedom of the apex is probably due to the constant and more extensive motion of the apical portion of the heart, and is the reason that it has been suggested, as referred to under acute pericarditis, that, other conditions not contra-indicating, the patient may be allowed to move about a little during convalescence to cause the heart to beat more actively. Sometimes the surfaces of the pericardium are not closely adherent to each other, but bands of adhesion stretch from one surface to the other.

After adhesions have taken place between the two layers of the pericardium the action of the heart is impaired, serious interference with the cardiac action may develop, and sudden death may occur. If the heart is given all the rest possible during the acute phase of the disease, there will be less likelihood of the surfaces becoming so irritated that adhesions readily form. Anything that permits complete absorption and resorption of the exudate will tend to prevent these hampering adhesions. If the adhesions are such as to cause irregular heart, recurrent pain and the danger of sudden death, surgical help has been suggested. This surgical procedure is to remove a portion of the ribs, perhaps of the third, fourth and fifth, to allow the heart more freedom of action to compensate for the impairment of its activity from the adhesions. Such an operation was first suggested by Brauer of Heidelberg in 1902.

The question of the best method of producing anesthesia in this condition of the heart is a serious one. A patient might die during the anesthesia; but he might also die at any time from cardiac spasm. Probably chloroform, administered by a skilled anesthetist, would be the safest anesthetic for this operation. In certain instances, in adults, perhaps local anesthesia would be sufficient. Pain reflexes, however, would be as serious as would the chloroform anesthesia.

Such an operation would be indicated when the apex is fixed so that there is a constant sensation of hugging of the heart at the fourth and fifth ribs, with paroxysms of pain and cardiac weakness.

(To be continued)

Two Great Difficulties.—There are two things which it is very hard to get men to do; it is very difficult to get a lazy man to work, but it is still harder to keep an energetic man quiet.—Sir Lauder Brunton in *Clin. Jour.*

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[*For other information see second page following reading matter*]

SATURDAY, NOVEMBER 2, 1912

HENRI POINCARE'

The recent death of Henri Poincaré has been the occasion of a number of biographic articles, the most important of which is undoubtedly that which appeared in the *Revue des Deux Mondes*, Sept. 15, 1912. Not only was Poincaré probably the greatest mathematical genius of our time, but he was besides a great physicist, astronomer and philosopher. Between the careful study of Poincaré made some years ago by Dr. Toulouse, and Poincaré's revelation with regard to the working of his own mind as he analyzed its processes and reflected on the methods by which he secured results, we have probably more intimate data with regard to Poincaré's mental characteristics than with regard to those of any other man of genius that ever lived.

Of his genius there could be no possible doubt, hailed as it was not only by the French, but also by the Germans, the English and the Americans. He added an important chapter to mathematics by his discovery and development of the Fuchsian functions, which simplified marvelously the solution of all curves and all linear differential equations that could be expressed in algebraic coefficients. Humbert of the French Academy of Sciences declared that Poincaré had in this provided "the keys of the algebraic world." In astronomy he deduced by mathematics that the rings of Saturn must be composed of small separate bodies — an agglomeration, as it were, in circular form of a series of planets. This mathematical deduction was afterward demonstrated physically by means of the spectroscope. This mathematical discovery on Saturn has been compared to the discovery of Neptune by pure mathematics. It was as a philosopher, however, that Poincaré was best known by the general public, and in this field some of his suggestions are considered as among the most valuable that had been made in centuries. Men have compared him in mathematics to Newton, in philosophy to Descartes.

The question how so great a mind works is extremely interesting. Poincaré has told the story of how he reached his great discovery of the Fuchsian functions. It was not reached all at once but by several steps. The first and most important development came to him one evening when, contrary to his custom, having taken a cup of black coffee at dinner, he could not sleep and the idea of this new mathematical mode took form little by little under these unusual circumstances. The problems which were involved came clearly before his mind and seemed too difficult for solution; so gradually he put them away and succeeded in falling asleep. The successive steps of the solution came to him subsequently not as the result of deliberate study of the problems, but long afterward and under most diverse circumstances, at moments when he was not thinking about them. They came to him as flashes of light, almost inspirations, as it were — once when he was just about to put his foot on the step of an omnibus, again when he was crossing a boulevard, a third time in the midst of a geologic excursion with some friends when the conversation was about ordinary subjects and had no relation at all to mathematics.

Ordinarily mathematics at least is supposed to be eminently intellectual and its developments are connected by the most rigid logic. It might be expected, then, that it would be only in the midst of deep thinking, even absorption of mind in mathematical subjects, that great new ideas would come; but Poincaré believed that it was a subconscious mind that solved the problems. His explanation of this, which resembles that so often heard with regard to the inspiration of the poet or the musician, is that certain thoughts are passing through the unconscious mind all the time and that, as in day-dreaming, we are never without groups of thoughts. Whenever one of these thoughts proves to be a particularly beautiful or strikingly novel conception of some kind it attracts the attention of the conscious mind and then is retained. According to Poincaré's experience, then, like poetry and music, the sciences, including mathematics, owe their development not to the rational conscious mind so much as to the unconscious and involuntary faculties. There would seem to be a tireless force in man, a part of him and yet not a part of him, working, thinking, developing, which brings to the conscious entity, man, his best thoughts and discoveries.

Poincaré, for all his genius, was a sane and simple father of a family; he himself taught his four children to read, often took part in their sports and found his favorite relaxation in the family life. Moments of abstraction in deep thinking he had, but they did not interfere with pleasant friendly intercourse or disturb his interests in the practical every-day life around him. It will add to the value of the study of Poincaré's mind made by himself to know that Dr. Toulouse after most careful investigations on a number of occasions by himself and a series of collaborators, including tests, measurements, investigation of reflexes, physical and mental, found him to be perfectly normal from the psychophysiologic point of view, with faculties perfectly harmonious and in complete equilibrium. The failure to find in the great scientist the slightest trace of a neurotic condition of any kind, flatly contradicts, in this instance at least, the theory of an intimate relation between genius and insanity.

TRANSMISSION OF POLIOMYELITIS BY THE STABLE-FLY (STOMOXYS CALCITRANS)

In a recent editorial[1] we referred to the announcement of Prof. M. J. Rosenau that he had apparently succeeded in transmitting poliomyelitis from monkey to monkey through the agency of the biting stable-fly (*Stomoxys calcitrans*), and stated that more complete reports from Rosenau might fully establish the correctness of his preliminary announcement. Confirmation of Rosenau's work has just appeared in an article by Anderson and Frost.[2] These authors report that they were able to transmit poliomyelitis to monkeys through the agency of the *Stomoxys* and to transmit the infection to a fresh monkey with the emulsion of the cord of one of the animals infected by the flies.

In the experiments of Anderson and Frost three monkeys were exposed daily to the bites of several hundred of the *Stomoxys*, which at the same time were allowed daily to bite two monkeys inoculated intracerebrally with poliomyelitis. All three monkeys developed typical symptoms of poliomyelitis on the seventh, eighth and ninth days, respectively, from the date of their first exposure to the bites of the flies. Histologic examination of the spinal cord from one of these monkeys showed typical well-marked lesions of poliomyelitis consisting of perivascular round-celled infiltration, foci of dense infiltration of the gray matter in the anterior horn, and destruction of some of the motor neurons. Histologic examination of the cords of the other two monkeys had not been completed at the time of the report, but the opinion was expressed that, on the clinical evidence, they died of poliomyelitis.

In order to confirm the diagnosis of poliomyelitis in these monkeys 1 c.c. of an emulsion of the cord from one of them was injected intracerebrally into a healthy rhesus monkey. This animal recovered promptly from the operation and remained apparently well until the morning of the third day, when a partial paralysis of the right fore leg was noted. The next day the animal became completely paralyzed and died late in the evening of that day. At autopsy no anatomic cause of death was noted, all the organs being apparently normal. On section, the spinal cord appeared edematous and the gray matter congested, showing minute hemorrhages. The site of inoculation appeared normal and cultures made from the site remained sterile. Histologic examination of the cord showed lesions characteristic of poliomyelitis, such as intense congestion and perivascular infiltration, foci of round-celled infiltration here and there in the gray matter, destruction of the cells of the anterior cornu, and small hemorrhages in the anterior and posterior cornu. From this it will be seen that these investigators were able to transmit the infection of poliomyelitis by intracerebral inoculation of the spinal cord of a monkey which had died of poliomyelitis contracted through the agency of *Stomoxys calcitrans*.

One point of especial interest in the results reported by Anderson and Frost is the period elapsing between the first exposure of flies to the infected animal and the development of the disease in healthy animals, the shortest period being seven days, which is shorter than that found by Rosenau in his experiments. These results, in confirmation of those announced by Rosenau in Washington, would seem to demonstrate conclusively that poliomyelitis may be transmitted to monkeys through the agency of the *Stomoxys calcitrans*. It remains, of course, for further work to determine whether this is the usual or the only method of transmission in nature. This early confirmation, while too late to be of great value in attempts to control the disease in the United States this year, will undoubtedly result in efforts by health authorities in localities where poliomyelitis has prevailed, to eliminate the stable-fly and to prevent its access to any persons suspected of having poliomyelitis.

The biology of the *Stomoxys* has not been so well studied as has that of the house-fly, and this side of the poliomyelitis question will undoubtedly receive from entomologists the attention which it deserves.

1. Recent Work on Poliomyelitis—the Biting Fly as an Intermediary, THE JOURNAL A. M. A., Oct. 12, 1912, p. 1380.
2. Anderson, John F., and Frost, Wade H.: Transmission of Poliomyelitis by the Stable-Fly (Stomoxys Calcitrans), Public Health Reports, Oct. 25, 1912, p. 1733.

URINE STATISTICS

Statistical data derived from analysis of the urine have come into distinct prominence in recent years. The routine determination of a number of excretory products has been made a familiar procedure in many laboratories by the introduction of improved and simplified methods for the estimation of specific constituents of the urine, notably the methods of Folin in this country. Thus there has accumulated an enormous collection of detailed reports on the composition of the urine under widely varying conditions of diet and in the most diverse pathologic cases. To evaluate these appropriately and to interpret their real significance it becomes necessary to learn the standards — to ascertain the values which represent the normal product of the kidney under known or controllable conditions.

A few years ago it was customary to express some of these features in ratios or percentages. In this way much discussion centered around an alleged normal urea-uric acid ratio. Percentage statistics likewise were furnished in profusion; and the clinician who was earlier insistent on having the data of the analyst expressed in grains per ounce now satisfied himself with parts per hundred. These frequently misleading figures relating to the concentration of the urine were often then, and are occasionally now, allowed to overshadow the really important finding of the total output of the kidneys per day. In most cases we are, after all, primarily concerned with the total work of the excretory organs. It is not the percentage of urea or uric acid or sugar that ordinarily interests the clinician-investigator, but rather

the sum-total of the output in the day's excretion. Three per cent. of sugar in a large volume may obviously mean a far greater loss than 6 per cent. in a small output. Yet it is surprising to note how little the uncertain significance of percentage analyses of small samples is appreciated by many medical men.

Added interest has been lent to the careful collection of detailed urinary statistics by the growing knowledge of the unlike history of the various nitrogenous products excreted by the kidneys. So long as urea, uric acid and creatinin were supposed to represent various stages of completeness in the oxidative destruction of protein in the body, the relative proportions of the products might well be assumed to give some hint as to the degree or completeness of oxidation in metabolism. We now know, however, that each of these nitrogenous excretory substances has its own story in the nutritive processes. Uric acid is associated with the metabolism of the purins and nucleoproteins and represents an end-product in a distinct series of transformations. Creatinin has a history independent of the other nitrogenous waste products, and we are taught at present to associate it with the endogenous metabolism of the individual. Urea ordinarily furnishes the index to the normal metabolism of simple proteins, particularly the food proteins. Ammonia is related to the condition of acidosis — the balance of acids and bases. Hippuric acid excretion is evoked by special features in the dietary. In this ensemble there are, accordingly, many contributory factors, each expressing itself in some individual way and each of specific import.

At the present stage of our knowledge it has become imperative to have a revision of our "normals" and a new series of data derived by the modern methods with a due appreciation of the intricate rôle of the diet in determining the interrelations of the different urinary constituents. Long and Gephart[1] have reported a series of complete analyses of the urine of a considerable number of men on a controlled diet, qualitatively the same and quantitatively nearly so for all members of the group. Broadly speaking, the most striking feature of the figures published is the general correspondence of the analyses for the different subjects. This in itself speaks for the uniformity of the metabolic processes in all persons under given conditions of observation. Idiosyncrasy does not creep into the chemical transformations of the body as it so often appears to do in other functions so as to afford a verbal cloak for our real ignorance. On the other hand, one is impressed also by Long and Gephart's statistics with the fixed individuality of the metabolic processes in some respects. Thus the creatinin output is shown anew, in confirmation of much evidence in the past, to be independent of the excretion of total nitrogen — that is, of the exogenous or food metabolism. Per kilogram of body weight the creatinin output ranges from 21 to 28 mg. despite the conditions of work or rest and wide variations of protein intake. The significance and value of the so-called rest nitrogen is left as vague as heretofore.

Not until an abundance of such normal data is available for comparison can generalizations regarding the perversions attributable to disease be safely ventured. Gathering statistics is a laborious and uninviting task; but science reaps the benefit often at most unexpected moments.

1. Long, J. H., and Gephart, F.: Some Analyses of Urine Composites, Jour. Am. Chem. Soc., 1912, xxxiv, 1229.

HEALTH ORGANIZATION IN THE VARIOUS STATES

There is no more effective way of bringing about intelligent and uniform health legislation in the various states and of stimulating states lagging behind in sanitary work than to show in concrete form existing conditions and what has already been accomplished. This has been done by the United States Public Health Service in a bulletin just issued.[1] In this bulletin is presented a full sketch of the machinery provided by state laws for the protection of health.

The ground has been covered in considerable detail. An analysis of the laws precedes the text of the statutes themselves. A historical review is given of early sanitary legislation in the United States, from the medical practice acts passed in Virginia in 1639, in Massachusetts in 1649 and in New York and New Jersey in 1665 down to the passage of the Massachusetts law of 1797 establishing boards of health for towns. The dates of organization of boards of health or health offices in the more important cities are given. Baltimore and Philadelphia led other cities in this respect being prompted in their action by the yellow fever epidemic of 1793.

The creation of state boards of health is next considered, and Massachusetts is found to have been the first to organize such a board, although previous to this (1869) quarantine boards had been in existence in Porto Rico since 1768, in Hawaii since 1851 and in Louisiana since 1855. Idaho was the last state to organize a board of health. The bulletin takes up the organization of state health authorities, and shows the existing resemblances and dissimilarities in the several states as to appointment, composition, number and qualifications of personnel, term of office, meetings, compensation and title. Not the least striking part is that setting forth the appropriations at the disposal of each board for the discharge of its duties. In no state can it be said that appropriations are so large as they should be for the best interests of the community, and in by far the greater number, available funds are barely sufficient to cover the most elementary needs. There are at least ten states (Nebraska, Iowa, Delaware, Arizona, North Dakota, South Dakota, Wyoming, West Virginia, Arkansas and New Mexico) which grant less than $10,000 to their health authorities for the preservation of the health of the people, and out of this must be paid all salaries and other expenditures.

1. Kerr, J. W., and Moll, A. A.: Organization, Powers and Duties of Health Authorities, Public Health Bulletin 54.

The powers and duties of the state boards are next reviewed, showing the extent to which legislation has vested in them authority for the control of communicable diseases, the collection of vital statistics, the protection of water-supplies, the abatement of nuisances, the sanitation of buildings, schools, railroads, factories and mines, and the licensing of persons desiring to practice medicine, nursing, midwifery, plumbing, barbering, etc. The functions of the boards are considered under various aspects, an attempt being made to classify them into investigative, executive or administrative, advisory, educational, quasi-judicial and quasi-legislative. The relation of national, state and local health authorities is commented on, showing how closely interwoven their interests are, and how far the laws have gone toward providing for cooperation not only between state and local health officials, but also between those of the separate states and between state and federal health officials.

The organization of local boards is studied, consideration being given under separate headings to county, township and city boards. We find in some states provisions for the establishment of county boards of health, but none for the appointment of county health officers. In a number of other states there is no provision for the obligatory appointment of either county or township health officers; and there are a number of states without general provision for the organization of city boards of health or the compulsory appointment of city health officers. The existing statutory requirements for the payment of health officers are noted, and there are so few states in which a fairly adequate compensation is provided that their names form a roll of honor. The discussion closes with a brief analysis of the health organization of cities having populations of more than 100,000 inhabitants.

The fact that the scope of legislation depends largely on the construction placed on it by the courts is recognized by the insertion in the bulletin of abstracts from judicial decisions bearing on the interpretation of public health laws. The text of the state laws relative to health organizations is given in full in the appendix. A note, however, explains that laws dealing in detail with specific subjects such as communicable diseases, nuisances, water-supply, etc., have been omitted, it being intended to publish them in separate volumes. This bulletin is one that must inevitably be of value to all interested in public health work, and copies of it should be placed in the hands of members of legislatures in states where sanitary questions come up for consideration.

THE ETHNICS OF INFECTION

A hitherto unknown race of men —"white Eskimos" — has been discovered by Dr. Vilhjalmur Stefansson in the Coronation Gulf territory of Victoria Land, British Columbia.[1] Several fanciful theories of their origin have been offered; Dr. Stefansson's own theory is that this new race consists of descendants of a Norse colony in Greenland, supposed to have been totally destroyed by hostile Eskimos long ago. A remnant, according to Dr. Stefansson's hypothesis, escaped westward and mingled with the Eskimos of Victoria Land. The characteristics of the new race differ from those of any hitherto known people of the Arctic regions and the occasional appearance among them of blue eyes and light hair renders the theory of Scandinavian descent probable. The moral status of the new race is said to be high.

According to newspaper report Dr. Stefansson says: "Whenever a new people is discovered, commercial interests want to know if any money is to be made and what are the mining and fur-trading possibilities. A few people want to know what the prospects are for saving souls. Nobody seems to take any thought about saving bodies." Missionaries, actuated of course by the loftiest motives, with much sacrifice, will bring the new people knowledge of religion; and traders of all sorts, with motives not so conspicuously altruistic, will bring them gunpowder and alcohol, and not only the traders but the missionaries also, in spite of the occasional medical missionary on the staff, will bring them new and deadly infections. If history repeats itself, the result will very likely be the extinction of this really fine people by disease and alcoholism, aided perhaps by famine following on the extermination of the caribou by firearms. The history of exploration and conquest is full of parallel instances.

John Guille Millais,[2] the son of the great painter, says of the Newfoundland Micmacs that "consumption and the traders' rum are playing havoc with this fine race." Dr. Grenfell has observed that epidemic diseases have up to recent years been practically unknown along the Labrador coast. The infections which the natives have contracted have been introduced mostly from regions to the south. One little Labrador settlement was for the first time visited by typhoid fever; Grenfell, when he arrived on his healing mission, found eighty frozen bodies of those who had speedily and most miserably succumbed to it. Tuberculosis, diphtheria and the exanthems are much more fatal among the Labradoreans than among us.

Dana[3] wrote in 1835: "It has been said that the greatest curse to each of the South Sea Islands was the first man who discovered it; and every one who knows anything about the history of our commerce in those parts knows how much truth there is in this; and that the white men, with their vices, have brought in diseases before unknown to the islanders, which are now sweeping off the native population of the Sandwich Islands at the rate of one-fortieth of the entire population annually."

1. Outlook, Oct. 5, 1912, p. 239.

2. Millais, J. G.: Newfoundland and Its Untrodden Ways, Longmans, Green & Co., 1907.

3. Dana, R. H., Jr.: Two Years Before the Mast.

Measles is an exanthem comparatively innocuous in civilization, but deadly to primitive peoples unaccustomed to it. Dr. Stefansson says that it has killed 50 per cent. of the Eskimos in Canada and Alaska in the last fifty years. It was entirely unknown in the Fiji Islands until introduced by whites in 1875. Thereupon in a single epidemic 40,000 of 150,000 Fijians, men, women and children, the aged and the young alike, died most pitiably of measles. How often, since the Spaniards following Columbus came in touch with the Caribbeans (whose name alone is left) has benevolent assimilation spelled pitiless extermination! The negro in his native Ethiopia knew nothing of consumption, syphilis, alcoholism or cocainism until his white brother came to bestow on him the blessings of civilization. Now tuberculosis is proving fatal to large numbers of the negro race in the United States. The same dreary story obtains regarding the American Indians whenever and wherever our people have come among them, with our tubercle bacillus and our fire-water; for the Indians are dying of tuberculosis in greater numbers than the negroes and in far greater numbers than the whites.[4]

Thus racial susceptibility to bacterial disease should give pause to those who contemplate the "regeneration" of peoples too gratuitously assumed to be barbarian and inferior, and whose departures from civilized standards are conditioned largely by environment. The "perpetual quarantine" urged by Dr. Stefansson for the white Eskimos seems reasonable and humane. He says: "The only really intelligent management of the Eskimo in the world is in Greenland. Here Denmark has a perpetual quarantine, and as a result the population is on the increase. Nobody is allowed to land in Greenland unless he is thoroughly inspected. Such an arrangement is perfectly feasible for the protection of the Coronation Gulf Eskimos."

THE CAUSE OF THE CAMMIDGE REACTION IN URINE

Several years ago Cammidge described a comparatively simple laboratory procedure which leads to the occasional demonstration of crystalline osazones when the phenylhydrazin test is applied in a special way to urines presumably free from glucose. The precise method to be employed, including the preliminary heating of the urine with hydrochloric acid, has been somewhat modified from time to time nd can now be found in up-to-date text-books on clinical diagnosis. The statistics gained by Cammidge in his application of the test led him to conclude that it was frequently correlated with the existence of pancreatic disease; and he was fortunate in being able to command exceptional clinical facilities for the study of this alleged relation.

The undeniable importance of discovering suitable specific tests for pancreatic involvement has long been apparent. Consequently Cammidge's findings speedily awakened interest and led to an investigation of their validity in numerous clinical laboratories. Already there exists a voluminous literature on the Cammidge reaction as a test for pancreatic disease. The conclusions are decidedly conflicting. Some investigators have noted the appearance of the osazones under the most diversified conditions without any suspicion of disturbance of pancreatic functions. They accordingly deny any specificity to the reaction in relation to the pancreas at least. Others again, insisting on a careful observance of the technic specially advised by Cammidge, have tended to substantiate his conclusions. An unbiased review of the situation, however, cannot fail to awaken a skeptical attitude in regard to the significance of the Cammidge test and to place it at best in the category of corroborative evidence.

Equally diverse have been the suggestions as to the nature of the chemical compound immediately responsible for the reaction in the urine. Conjugated glycuronates, pentoses and sucrose, each known to be excreted at times, have been most prominent among the suggestions. One would naturally expect, if Cammidge's test is referable to a definite and constant pathologic factor, to find a uniform cause for the reaction; otherwise its specific validity must inevitably be looked on with suspicion. Professor C. Neuberg of Berlin — an acknowledged expert in this field — has just reported his investigation of the nature of the osazone deposits obtained from a series of urines which gave the Cammidge test. In five of them a glycuronic acid derivative was detected; in one case, the outcome was due to pentose; in another, a hexose was presumably present.[1] This evident lack of uniformity in the mother substance of the Cammidge crystals must tend more than ever to impair any confidence in the diagnostic usefulness of the test, at least until far more definite evidence and clear substantiation has been furnished.

Current Comment

EFFICIENCY ON A PERCENTAGE BASIS

Laws which provide for the health and comfort of employees in the industries, protect them from occupational disease and injuries and compensate them when injured, would seem to impose greater burdens of expense on employers at the outset, so that the latter will be increasingly particular in regard to the health and efficiency of the men and women whom they employ. Indeed, railways and many other industries now require that the prospective employee undergo a physical examination before being employed. The percentage method of rating the efficiency of employees in regard to both physical condition and amount of work performed will no doubt be a development of this state of

4. Eighth Ann. Rep. Bureau of Census, Mortality Statistics of 1907

1. Neuberg, C.: Ueber die Substanzen die am Zustandekommen der sogenannten Cammidgeschen Reaktion beteiligt sind, Biochem. Ztsch., 1912, xliii, 505.

affairs. At the recent Congress on Hygiene and Demography, C. W. Stiles exhibited two hookworm patients to illustrate the effect of this disease in retarding mental and physical development, and its influence on the efficiency of the individual as a working member of society, rating the individual on a percentage basis and estimating his mental development by the Binet-Simon test. One of these patients was brought to Washington in a condition which was estimated to be 14 per cent. of par. Under treatment he became 54 per cent. within six weeks and at the time he was presented was estimated to be 98 per cent. of normal. The other patient, though 15 years old, by the Binet-Simon test graded only 9½ years and was in the third grade in school. At the time of exhibition he was estimated to be 32 per cent. of par. The percentages in these cases, of course, refer only to physical development and condition, but in the industries could be applied seemingly with most satisfactory results in rating employees as to physical condition and working efficiency, and along with other cost-keeping methods employed in modern factories the plan would seem at once to recommend itself for adoption. It is conceivable that it might even become the basis of computation of pay. It might also be employed in recording the results of the medical inspection of school children. We do not know of any instance in which the system is now employed.

THE LAXATIVE ACTION OF SULPHUR

It is only in comparatively recent years that any serious attention has been paid to the mode of action of the numerous aperients, laxatives and purgatives which enter so largely into every-day use either through the prescription of the physician or as supposedly indispensable household remedies. Introduced in an age of pure empiricism, these drugs have been tested by their results, without consideration of how and why an evacuation of the bowel is brought about by them. The development of physiologic technic and its application to the study of the movements of the alimentary tract and the secretion therein contained have chiefly been responsible for an awakened interest in the pharmacology of a group of drugs of universal importance. The disclosures of such investigations have been particularly interesting in revealing a degree of specificity of behavior on the part of the various representatives that was scarcely anticipated. The saline laxatives incite secretion or retard absorption. The vegetable cathartics affect the most diverse structures of the bowel. Some stimulate the musculature of the upper region; some direct their effective influence on the lower intestine; some act through the intermediation of a nervous mechanism and others directly on the local musculature. The more precise information now available or continually accumulating in respect to these specialized responses cannot fail to encourage a more discriminating selection of laxative drugs. Sulphur is one of the substances which early entered into the list of efficient laxatives. It has figured as a component of various mixtures which have enjoyed the popularity of "family use" and won a place in early medical history, although its use has of late declined to the point where the present generation rarely hears of it in this connection. The probable mode in which sulphur functions as a laxative has been explained by Heffter.[1] Some of the element becomes converted into hydrogen sulphid in the large intestine, and probably in some measure in the upper intestine as well. This derivative provokes the discharge of the fecal masses. Frankl[2] has asserted that the sulphur becomes oxidized in the bowel to sulphur dioxid, which in turn creates a hyperemia and increased peristalsis through its irritation of the intestinal mucosa; but experimental researches of Taegen[3] have clearly shown that this view is untenable. The formation of hydrogen sulphid in the intestine after the ingestion of sulphur remains a demonstrated fact.

THE TABOO ON MODERATE DRINKING

The use of alcohol is receiving some hard knocks these days. A prominent railway system, not content with the general rule heretofore in force on railways forbidding employees to drink while on duty, now forbids employees to indulge at all in drinking out of employment hours, or in any other conduct which will impair their health or make them less alert and less capable while on duty. The owner of one of the nation's pets — a prominent baseball team — announced that moderation in drinking is not sufficient; the players on his team must leave alcohol entirely alone and abandon cigarets. The justification for such rules may be found not only in the difficulty of being moderate in indulgence, but also in the cumulative and after-effects of dissipation. The world is moving; the old fetich of "personal liberty" at whatever cost of danger to the public at large seems to be losing its power. The time may come when every man to whom the life and safety of others are entrusted may be expected or even required to be as abstemious as the ball-players and railway employees just mentioned.

RESPONSIBILITY IN SURGICAL PROCEDURES

In reporting a case of the seemingly useless removal of an eye on account of pain involving some branches of the fifth nerve, Castelaw calls attention in this issue to the responsibility of the physician in advising the removal of important members or organs. Not only is it important to make a correct diagnosis before adopting surgical measures and to know positively that the proposed operative procedure will correct the condition and bring about relief, but also it is important to consider the relative value of a member or organ to the patient in question before resorting to surgical methods. Some persons may fare comfortably with one arm or with one eye while others will be greatly handicapped in following their usual occupations by the loss of even a thumb or forefinger; in all instances these things must be taken into consideration, and good judgment and conservative measures employed; otherwise attempts at such measures would be obviously futile. It is especially important to be conservative when an operation would involve a change in the patient's occupa-

1. Heffter, A.: Arch. f. exper. Path. u. Pharmakol., 1904, li, 175.
2. Frankl, T.: Arch. f. exper. Path. u. Pharmakol., 1911, lxv, 308.
3. Taegen, H.: Arch. f. exper. Path. u. Pharmakol., 1912, lxxix, 263.

tion, for distressful conditions may arise from such changes, as every practitioner knows. Operations entailing serious consequences are often undertaken for the relief of symptomatic conditions which on more careful study might have been relieved by other means; likewise in instances of injury, members are removed which, under a better understanding of the regenerative powers of Nature, aided by skilful plastic surgery, might have been saved. Conservatism, good judgment and a correct diagnosis should be the guiding principles in such instances in order that the usefulness and earning power of the patient may not be impaired.

Medical News

DISTRICT OF COLUMBIA

New Building for Physicians.—The new Reeside building at 1225 New York Avenue is the first building in Washington to be constructed for the use of professional men. The building is to be five stories in height, will have from three to five suites of offices on each floor, and will be ready for occupancy January 1.

Work of Tuberculosis Hospital.—During the fiscal year ended June 30, 461 patients were treated at the Tuberculosis Hospital of the District of Columbia. The average daily number was 94 as compared with 81 during the year previous. During the year, 169 white and 149 colored male patients and 58 white and 85 colored female patients were treated.

ILLINOIS

New Officers.—Western Illinois District Medical Society at Jacksonville, October 26: president, Dr. H. W. Chapman, White Hall.

Epidemic Disease.—Milk infected with typhoid germs, it is alleged, is responsible for the epidemic in Evanston, where eleven children using milk from one dairy became ill within a period of ten days.——The public schools of Mount Vernon were closed October 23 on account of diphtheria and scarlet fever. Theaters and churches and public places were also closed to children under sixteen years of age.

Supreme Court Upholds State Board.—At the session of the Illinois Supreme Court in Springfield, October 26, Sections 9 and 10 of the medical practice act, which provide additional penalties for second offenses in the case of persons convicted of practicing medicine without a license, were sustained. In an opinion given in the case of Mrs. J. Dunn, fined $200 in the Municipal Court for treating cancer without a license, the constitutionality of the law was attacked on the ground that it was a general act giving special privileges to the State Board of Health, but this the Supreme Court denies.

Personal.—Dr. John Ewing, Tuscola, who was operated on for appendicitis about three weeks ago is convalescent and has returned home.——Dr. Olga Bridgman, physician at the state training school for girls, Geneva, has been transferred to the Lincoln state school and colony and has been succeeded by Dr. Clara Dunn who has been transferred from the Chicago State Hospital.——Dr. D. D. Kirby, Canton, has returned from Europe.

Chicago

Jewish Charity Ball.—The eighth annual charity ball of the Jewish Consumptives' Relief Society of Chicago, held in the First Infantry Armory, October 7, netted $20,000 to the working funds of the organization.

Guthrie Boulder to be Moved.—The boulder on the lake front in Grant Park, brought to Chicago six years ago by the late Ossian Guthrie as a memorial to Samuel Guthrie of chloroform-discovery fame, is to be moved to Washington Park.

New Children's Hospital.—The women's board of the Children's Southside Dispensary is taking steps for the erection of a children's hospital for the use of patients living south of Thirty-Ninth Street. Dr. Robert A. Black is at the head of the medical staff.

Personal.—Dr. and Mrs. Rudolph W. Holmes have returned from Europe.——Dr. and Mrs. Harry Spencer Brown sailed for Europe, August 21.——The Italian colony of Chicago gave a banquet October 27, in honor of the fiftieth birthday anniversary of Dr. Camillo Volini, chief of the medical staff of the Columbus Extension Hospital.——Dr. T. A. Woodruff, who has been very ill with pneumonia, is reported slightly better.——Dr. Carl von Noorden, of the medical faculty of the University of Vienna, visited Chicago, October 26-27.

Retrenchment in Health Department.—Health Commissioner George B. Young has planned a practical method of retrenchment for his entire department. He has issued orders calling for lay-offs without pay, ranging from three days for field nurses, five days for supervising nurses and office secretaries and stenographers, seven days for the commissioner himself, assistant commissioner, secretary and bureau heads, and fifteen days for food inspectors.

INDIANA

Hospital Contract Awarded.—The trustees of the Indiana University have awarded the contract for the Robert Long Hospital to the Bedford Stone Construction Company for $161,000.

New Officers.—Eleventh District Medical Association: president, Dr. Charles H. Good, Huntington; secretary-treasurer, Dr. James L. Gilbert, Logansport.——Logansport Association for the Study and Prevention of Tuberculosis: president, Dr. Clark Rogers.

State Colony for Insane.—The governor has informed the superintendent of the Indiana Eastern Hospital for the Insane, Richmond, that an appropriation of $75,000 has been authorized for the purchase of land for a colony for insane and that the funds will be available early next spring.

Hospital for Feeble-Minded.—A new hospital building for the feeble-minded is to be erected at Fort Wayne at an expense of $75,000. This makes the tenth building to be erected for this institution and completes the original plan which has involved an investment by the state of nearly one million dollars.

Hospital for Insane Criminals.—The Indiana Hospital for Insane Criminals, Michigan City, was opened for occupancy October 19. The building is modern throughout and its equipment is up to date. Persons who become insane while serving sentences in the Indiana State Prison and Reformatory will be treated in this institution and also such persons as are committed to it by authority of the court, to remain until discharged on recovery. Dr. Paul E. Bowers is physician in charge of the institution.

IOWA

Renders Leper Bill to Michigan.—The secretary of the State Board of Health has made a formal demand on the state of Michigan for $800, the expense connected with the detention and care of Herman Hirschfield, the leper of Bay City, at Centerville.

Personal.—Dr. J. C. Powers, Hampton, is reported to be seriously ill with septicemia.——Dr. J. Rudis-Jicinsky, Cedar Rapids, has returned from abroad.——Dr. William D. Runyon, Clarinda, has been elected assistant superintendent of the Iowa State Sanatorium, Oakdale.——Dr. William Van Werden, Des Moines, has sailed for Europe.——Dr. J. C. Bickley, Waterloo, has gone abroad.

New Officers.—Southwest Iowa Medical Association at Creston, October 18: president, Dr. T. W. Bennett, Lenox; secretary-treasurer, Dr. Enos Mitchell, Osceola (reelected).——Eighth annual meeting of the Second District Medical Society at Davenport, October 8: president, Dr. George E. Decker; secretary-treasurer, Dr. John V Littig, both of Davenport.——Linn County Medical Association at Cedar Rapids, October 2: president, Dr. W. J. Morrison; secretary, Dr. C. L. Heald, both of Cedar Rapids.

University Alumni Meet.—The annual meeting and clinic of the Iowa University College of Medicine Alumni Association was held in Iowa City, October 22 and 23 and the following officers were elected: president, Dr. Charles J. Saunders, Fort Dodge; secretary, Dr. Clarence Van Epps, Iowa City. At the banquet the president responded to the toast on the New College of Medicine, emphasizing the following needs of the college: extension of State Board of Health bacteriologic laboratories; new wing for hospital; home for crippled and deformed children; nurses' home and psychopathic department. The new wing of the hospital recently erected at a cost of $100,000 was opened for inspection. The association presented to the university an oil painting of Dr. Elmer F. Clapp, Iowa City. The presentation address was made by Dr. Abraham J. Hobson,

Hampton. Dr. George A. Smith, Clinton, presented a portrait of the late Dr. P. J. Farnsworth, Clinton. The portraits were accepted on behalf of the university by President John G. Bowman.

KANSAS

Hospital Notes.—Wesley Hospital, a Methodist Episcopal institution in Wichita, was opened to the public October 15, with a reception to the laity and to the profession. Dr. E. T. Ebright is chief of staff.——The physicians of Pittsburg are endeavoring to make arrangements for the erection of a new hospital for Crawford County to cost $50,000.

Personal.—Dr. Aaron Schuyler, Salina, is reported to be seriously ill.——Dr. F. P. Chillengworth, Hadam, Conn., has been appointed assistant professor of physiology in the University of Kansas.——Dr. J. A. Davis, Kansas City, fractured his right wrist while attempting to crank his automobile, September 20.——Dr. G. R. Dean, McPherson, was assaulted, September 24, but not seriously injured.

KENTUCKY

New Officers.—Tri-County Medical Society (Warren, Simpson and Logan) at Shakertown was entertained by the Logan County Medical Society. The election resulted: president, Dr. J. L. Neel, Drake; secretary-treasurer, Dr. John H. Blackburn, Bowling Green.

Will Study Hookworm and Pellagra at State Hospitals.—Two experts, under the direction of the State Board of Health and at the expense of the Kentucky branch of the Rockefeller Foundation Fund, have begun examination of the patients of the Eastern Kentucky Hospital for the Insane, for hookworm and also to trace any relation which pellagra may have to that disease.

Tuberculosis Commission.—The State Tuberculosis Commission plans to encourage the building of sanatoriums by counties to assist in the propaganda for better sanitation and hygiene, and to supervise a crusade against tuberculosis. In this the commission will cooperate with the State Board of Health, and a joint meeting of the two boards will be held in Louisville in November.

Births and Deaths.—The State Board of Health announces that during 1911, 60,732 births were reported, not including 2,390 still-births, and 30,583 deaths. Of the latter, 12,443 occurred from preventable diseases, the chief cause being from tuberculosis which caused 5,181 deaths, diarrhea of infants, 1,124; pneumonia, 2,530; typhoid, 1,035; meningitis, 630; diphtheria, 545; influenza, 477; measles, 394; whooping cough, 324; puerperal septicemia, 161, and scarlet fever, 72.

Changes in Hospital Appointments.—The State Board of Control has made several appointments and reappointments to state hospitals. Dr. S. L. Helm, Lexington, has been appointed first assistant at the Eastern State Hospital, Dr. W. E. Render has been transferred from the Western State Hospital to the Eastern State Hospital, Dr. Minnie C. Dunlap, Lexington, has been reappointed third assistant at the Eastern State Hospital. Dr. F. L. Peddicord, Burlington, succeeds Dr. T. J. Grice, Lakeland, as first assistant at the Central State Hospital and Dr. A. J. Davidson, Lakeland, has been appointed third assistant at the institution.——Dr. Roy F. Robinson, Hopkinsville, has been appointed second assistant and Dr. Eurey G. Davis, Russellville, third assistant at the Western State Hospital. All these appointments are for a term of four years, beginning December 1.

MAINE

Personal.—Dr. George S. Bliss, West Pownal, has been appointed superintendent of the Indiana School for the Feebleminded, Fort Wayne.——Dr. H. E. Milliken, Portland, has started for Europe.——Dr. James D. Clement, Belfast, will soon open an office in Portland.——Dr. Adam P. Leighton, Jr., Portland, will open in December a private maternity hospital with accommodation for twenty patients.

MARYLAND

Personal.—Dr. William I. Buppert, Harrisonville, is under treatment at the University Hospital, Baltimore, for a sprained knee.——Dr. William L. Lewis, Kensington, has been elected vice-president of the Kensington Citizens' Association.

Baltimore

Personal.—Dr. C. G. Jung, Zurich, Switzerland, visited Baltimore October 24 and was the guest of Dr. Trigant Burrow.——The home of the late Dr. John G. Hollyday was destroyed by fire, October 23.

Dinner to Dr. Winslow.—The Faculty of Physic of the University of Maryland gave a dinner to Prof. John Randolph Winslow at the University Hospital, October 22, on the occasion of his sixtieth birthday anniversary. Dr. John C. Hemmeter acted as toastmaster.

Beriberi Clinic.—A clinic on beriberi was given at the University Hospital, October 1. Ten patients were exhibited, taken from the bark *Daylight* which reached Baltimore recently from Bombay after a voyage of six months. This is the first clinic on beriberi held in Baltimore and, it is believed, the first clinic of its kind to be held in the United States.

Sex Hygiene Exhibit.—A sex hygiene exhibit was held last week at the hall of the Medical and Chirurgical Faculty of Maryland. Lectures were given each evening and among the speakers were Dr. O. Edward Janney and Donald R. Hooker. The exhibits illustrate the three phases of the subject, eugenics and heredity, social disease, and methods and material for sex instruction.

Anti-Noise Committee.—At the annual meeting of the Baltimore City Medical Society, October 18, an Anti-Noise Committee was appointed consisting of Drs. William T. Watson, Henry Lee Smith and John Staige Davis. The duty of the committee is to draw up and have passed a city ordinance prohibiting unnecessary street noise and making homes and hospitals more comfortable for sleeping.

Bazaar for Widows' and Orphans' Home.—The managers of the Home for Widows and Orphans of Physicians, which has been in successful operation for some time, will hold a bazaar in the Howard Street Armory, November 24-25. The institution is dependent for its maintenance entirely on subscriptions and entertainments. The home owns a three-and-one-half-story building. Mrs. Eugene F. Cordell is president of the board.

Medicine as an Aid in the Evangelization of China.—Believing that increased medical efficiency would help in the evangelization of China, a strong appeal has been made before the Women's Foreign Missionary Society of the Methodist Episcopal Church which met in Baltimore last week. They intend to found a medical school for women in Peking. Dr. Li Bi Cu, a woman physician in China, who is in charge of the hospital at Ngu Cheng, was one of the speakers.

Physician Secured Damages.—In the case of Dr. Henry Charles Ohle, who sued the Maryland Casualty Company for $20,000 damages alleging that on October 7, 1909, he operated on a patient and thereby became infected, resulting in total blindness, the court decided in his favor allowing him damages of $7,500. Dr. Ohle held an accident policy in the company by which he was entitled to $5,000 in the event of blindness and a weekly payment of $25 a week for a certain period.

Howard Kelly and the Vice Crusade.—Dr. Howard Kelly gave a dinner on October 18 to 200 students. Mr. Bonaparte was toastmaster. Dr. Kelly discussed medical men as public servants and spoke on the general relations of the medical profession to the public and to politics as compared with those of previous generations. During the following week he addressed the Methodist clergymen of the city, the Men's Club of Grace Protestant Episcopal Church, and a neighborhood meeting at Westminster Presbyterian Church on the vice crusade. On October 15 he addressed the Association of Jewish Women on "Social Conditions and Obligation of Society Women to Take Part in Social Work."

MICHIGAN

Affiliation of Societies.—At the meeting of the Montcalm County Medical Society in Greenville recently, it was decided to affiliate with the Ionia County Medical Society and merge the two into the Ionia-Montcalm County Medical Society.

Leper No Longer Quarantined.—Herman Hirschfield, who has been in quarantine for leprosy at his home in Bay City, Mich., for several months is no longer held by the local health authorities and the quarantine card has been removed from his house.

New Hospitals for Kalamazoo.—Contracts have been awarded for plans for three new hospitals to be built by the state, namely, a tuberculosis sanatorium, a detention hospital and an isolation hospital.——A location has been found for the clinic and dispensary to be established by the Kalamazoo Antituberculosis Society.

New Officers.—Detroit Academy of Medicine, October 8: president, Dr. Andrew P. Biddle; secretary-treasurer, Dr. Ray Connor.——Ottawa County Medical Society at Holland, October 9: president, Dr. J. H. Peppler, Byron Center (reelected); secretary, Dr. H. J. Poppen, Holland.——Tuscola

County Medical Society at Carr, October 14: president, Dr. J. H. MacKenzie, Reese; secretary-treasurer, Dr. W. C. Garvin, Millington (reelected).

MINNESOTA

New Officers.—Minnesota Academy of Ophthalmology and Otolaryngology: president, Dr. Frank C. Todd, Minneapolis; secretary-treasurer, Dr. Louis Allan Nelson, St. Paul.

Many Indians Consumptives.—Dr. L. Clark, of the U. S. P. H. Service, has found that more than 70 per cent. of the Indians at Pelican Point are afflicted with tuberculosis.

Hospital for the Criminal Insane.—The State Board of Control is considering plans for the conversion of the old Stillwater penitentiary into a hospital for the criminal insane.

Advisory Medical Commission.—A commission of five physicians of Minneapolis has been placed at the call of the judges of the municipal court by the Hennepin County Medical Society.

Appropriation for Medical Inspections.—The Board of Tax Levy of Minneapolis, on September 24, tentatively allowed an appropriation of $25,000 for the extension of medical inspection in the public schools of the city.

Legislation for Hospital on Reservation.—The acting Commissioner of Indian Affairs will include in the annual estimates at the December session of congress an item calling for the appropriation of $100,000 for the construction of a hospital on the White Earth Indian Reservation.

Appropriation for Health Work.—Health Commissioner Lankester of St. Paul has submitted estimates for his department for the coming year. He asks $102,684.86 of which $12,290 is for the health department proper, $25,755 for quarantine, $29,710 for garbage collection, $19,039.86 for public baths, $8,740 for dairies, $2,500 for the removal of dead animals and $2,160 for smoke and hotel inspectors.

MISSOURI

St. Louis

Addition to Medical School.—St. Louis University is building an addition to its medical school. The new building is three stories in height and will accommodate offices, library and also laboratories for animal experimentation, and will cost about $10,000.

Faculty Appointments.—The following appointments have recently been made in the St. Louis School of Medicine: Dr. John Zahorsky, professor of children's diseases; Dr. Paul M. Carrington, U. S. P. H. Service, professor of hygiene; Dr. Joseph Grindon, professor of dermatology; Dr. George Ives, assistant professor of bacteriology.

Hospital Cornerstone Laid.—The cornerstone of the Barnes Memorial Hospital at Kingshighway and Euclid Avenue was laid with impressive ceremonies by Bishop R. E. Hendrick of the Methodist Episcopal Church, South, October 11. The institution will be erected at a cost of about one million dollars and has an endowment fund of a like amount. Arrangements have been made to affiliate the hospital with the medical department of Washington University.

NEW YORK

Personal.—Dr. John G. Miller, Lancaster, who was operated on for the removal of gall-stones, October 19, is reported convalescent.——Dr. Louis Faust has been reelected a member of the board of managers of the Schenectady Hospital Association.

Yonkers Opens Tuberculosis Hospital.—The new Municipal Tuberculosis Hospital in the Nepera Park section of Yonkers has been formally opened. The building is on a five-acre site given by Alexander Smith Cochran. Forty patients have already applied for admission.

New Officers.—Sixth annual meeting of the Sixth District Branch of the Medical Society of the State of New York at Binghamton, October 15: president, Dr. Luzerne Colville, Ithaca; secretary-treasurer, Dr. R. Paul Higgins, Cortland.——First District Branch of the Medical Society of the State of New York at Poughkeepsie, N. Y., October 4: president, Dr. John Calhoun Otis, Poughkeepsie; secretary, Dr. Charles Ellery Denison, New York City.

Birth-Rate in the State.—The *Bulletin of the State Department of Health* for August shows that there were 11,525 births in the city of New York, that urban births outside of New York City numbered 4,274, while the rural localities which are credited with a population of 2,331,688 report but 3,421 births. The number of deaths in the cities outside of New York City was 2,766, while in rural localities the number was 2,702. The gain of births over deaths in New York City was 5,781, while for the rest of the state it was only 2,227.

Hospital News.—The former home of the late Henry H. Cook, Bath, was formally opened as a hospital, October 7.——The Olean General Hospital property has been sold to A. F. Miller of that city for $7,600.——The Board of Health of Watertown has asked an appropriation of $1,000 for the maintenance of the summer tuberculosis camp and winter tuberculosis hospital.——At a special meeting of the stockholders of the Physicians' Hospital, Schenectady, the proposition of changing the management of the hospital from that of a private stock corporation to that of a charitable organization was considered.——At a meeting of the stockholders of the Physicians' Hospital, Schenectady, October 18, it was decided to dissolve the corporation.——The Mountain Sanatorium, Binghamton, was reopened for the reception of patients, October 23, after having been closed for twenty days. It is probable that after January 21 the sanatorium will be under the direct supervision of the commissioner of health.——As a mark of respect to the memory of the late Governor Flower, the name of that portion of the St. Lawrence State Hospital buildings, Ogdensburg, known as "Group Three," has been changed by the board of managers to the "Roswell P. Flower Group." The board of managers has also changed the name of the infirmary to the "William Pryor Letchworth Group" in honor of the chairman of the commission, who did so much to have Ogdensburg selected as the site for the hospital.

New York City

Personal.—Dr. Ira S. Wile has been appointed a member of the Board of Education.——Dr Simon Flexner of the Rockefeller Institute has sailed for Europe.——Dr. Albert M. Mehrenlender, Brooklyn, was decoyed to a lonely neighborhood on a fictitious sick call and severely beaten and robbed.

Free Clinic for Fordham.—The New York State Board of Charities has granted the Fordham University School of Medicine permission to open a free clinic in the new building which is almost completed. Students will thus be enabled to make practical observations in their own institution as well as in the other city hospitals.

Oysters Must Show Clean Bill of Health.—Health Commissioner Lederle has announced that dealers selling oysters fattened in fresh water must show conclusively that the freshening beds are not polluted, if they are to retain their permits. The public is warned that the gray and relatively smaller oysters that are tonged in salt water are the only ones above suspicion.

Conference for Study of Exceptional Children.—The third annual conference of the National Association for the Study and Education of Exceptional Children was held at the College of the City of New York on October 30 and 31 and November 1. Among the general topics discussed were the "Exceptionally Bright Child," "The Retarded Child," and "Rational Human Eugenics."

Weather Blamed for Increased Infant Mortality.—According to the Babies' Welfare Association there were 273 deaths of infants under 1 year of age for the week ended October 19 as compared with 256 for the corresponding week of 1911. This increase was mainly due to diarrheal diseases and is attributed to the changeable weather during the first two weeks of the month.

Board of Education Providing for Defective Children.—At the last meeting of the Board of Education a resolution was passed amending the by-laws so that provision is made for the appointment of two additional physicians for the examination of mentally defective children, an assistant inspector of ungraded classes and a social worker to visit the parents of children of this class. The ultimate object of the Board of Education is to separate the subnormal from the normal children and this can only be done by comparing them.

Hospitals Cannot Have Waterfront.—The dock commissioner has refused the request of the city hospitals for waterfront space where their patients could enjoy fresh air and sunshine because he thinks this would be detrimental to the city and its commercial interests. Dr. John Brannan, president of the Board of Trustees of Bellevue and the Allied Hospitals, tells the commissioner that this commercial loss means every year a benefit to from 40,000 to 50,000 persons. Last year the number of patients in the city hospitals increased by 8 per cent. and this year the increase will be still greater.

Harvey and Other Lectures.—The third Harvey lecture will be given November 9 at 8:15 p. m. at the New York Academy of Medicine, by Professor Joseph Erlanger of Washington University, St. Louis, on "The Localization of Impulse Initia-

tion and Conduction in the Heart."——Dr. L. Duncan Bulkley will give a fourteenth series of clinical lectures on diseases of the skin at the New York Skin and Cancer Hospital on Wednesday afternoons from Oct. 30 to Dec. 18, 1912, at 4:15 o'clock. They will be free to all.——Dr. Frederick Bierhoff will give clinical lectures on genito-urinary and venereal diseases at the Westside German Dispensary, 328 West Forty-Second Street, on Monday evenings, at 8:30, beginning November 4 and continuing about three months. These lectures will be free to the medical profession and to advanced students in medicine.

To Aid Feeble-Minded.—A movement has been started by the Department of Public Charities to centralize the examination records and care of defectives who may under the present system come under the observation of half a dozen or more city departments and societies. The work at present will be under the Bureau of Dependent Adults, but it is hoped later to establish a separate bureau. Each applicant will receive a careful examination and his history will be investigated in order to determine whether he has inherited the deficiency or whether the occupations of the mother and father could have exposed him to poison which could have been an etiologic factor in the causation of the mental condition. The examination will also determine whether the applicant is a danger to the community. For the success of the bureau all other agencies and social workers interested in the care of defectives are requested to refer any mental defectives who come to their attention to this bureau. In this way the department can arrange for the early admission of the applicant to a proper institution and will be able to demonstrate the need of more facilities for the segregation of these cases to prevent the increase of this class. It is also contended that the bureau will be able to show the United States authorities just how many foreign born feeble-minded persons there are in the city and whether the condition existed prior to arrival in the United States. Dr. Max G. Schlapp will be in charge of this work.

PENNSYLVANIA

Inspecting State Dairy Farms.—Veterinary inspectors, under the direction of Dr. C. H. Marshall, state veterinarian, are making an inspection of all dairy farms in Pennsylvania, which last spring were found to be a menace to the public health. On October 21, Dr. Marshall reported that a large number of the 3,400 dirty dairy farms found in the last inspection tour in this state have gone out of business. Those still in a filthy condition have been quarantined, and the quarantine will not be raised until the dairies have been made sanitary.

Contagious Diseases.—More than twelve cases of typhoid are now under quarantine in Lewistown. These are all in the vicinity of the Logan Street schools, which have been closed. ——Up to October 24 157 cases of typhoid had been reported to the State Health Department from Troy. About sixty nurses are on duty, volunteers having come from Williamsport, Elmira and Towanda. The temporary hospital is filled and if more cases develp another hospital will have to be established.——The effects of the small-pox epidemic at Carbondale are still traceable, as there have been outbreaks in two nearby communities in the past few days. Two cases were reported from South Canaan October 25, and there are three cases at Peckville.

Personal.—Dr. Elizabeth W. Ellison, Northumberland, has been appointed medical inspector of the normal schools of Wisconsin.——Dr. Isaac I. Parsons, formerly resident physician of the Devon Hospital, has become assistant physician at the Media Hospital.——Dr. Wilmont Ayres, Millersburg, has been obliged to move to Bedford Springs on account of ill health.—— E. R. Walters, director of the health and charities department of Pittsburgh, has recovered from his small-pox attack and resumed his duties.——Dr. David R. Beaver, Conshohocken, was run down by an automobile in that city, October 18 and sustained painful injuries.——Dr. Guy A. Gerberich is ill with typhoid in Lebanon.——Dr. W. W. Richardson, for twelve years resident physician at the State Hospital for the Insane, Norristown, has resigned and will open a private sanatorium in Pittsburgh. He has been succeeded by Dr. C. R. McKinnis.——Dr. F. L. Knox, Claysville, was painfully injured by the overturning of his automobile, near Coon Island.

School Inspection.—During the week beginning October 21, officers of the state department of health made a complete sanitary inspection of more than 5,000 schoolhouses in the state, in the 656 townships that do not have medical inspection. Dr. Samuel G. Dixon, commissioner of health, desires a detailed report on the sanitary condition at schools in every second-class township in the state. The condition of the rooms and halls must be noted; the method of cleaning given; the amount of lighting space in proportion to the floor area computed as well as the number of cubic feet of air space per pupil; method of heating, whether steam, hot water or stove, and location of the apparatus; disposal of the sewage; location and condition of outbuildings; water supply, if from a well, its location and the possibilities of contamination of surface drainage; if from a municipal supply, whether from within the building on the grounds and the possible sources of contamination; and the care of water in the school room.

Philadelphia

Hospital News.—The Jewish Sanatorium for Consumptives is now free from all encumbrances. Mrs. Caroline Levy has donated $2,000 in memory of her husband for the erection of a shack for men.

Beriberi.—Three cases of beriberi were discovered October 12 by the inspector of the state quarantine board on the steamer *Venetia* from Cienfugos, Cuba, at Marcus Hook, October 12. All three were Chinese and members of the crew.

To Provide Site for Dispensaries.—In order to provide a site for future dispensaries, the Pennsylvania Hospital has purchased the southwest corner of Ninth and Spruce streets, improved with a three-story house, for a consideration of $16,000.

Rats for Health Department.—Appeals for rats, dead or alive, have again been made by the Health Department. Dr. Joseph F. Neff, director, explains that the rats are needed by the department for bacteriologic examination in the Health Bureau's work to prevent the bubonic plague finding lodgment in the city.

Crippled Children to Benefit.—The Advisory Committee on Municipal Charities is formulating plans to benefit the defective and indigent children in the city of Philadelphia. The sub-committee on crippled children to begin its work must make a census of the crippled children in the city of Philadelphia. It is, therefore, sending to physicians, hospitals and charitable organizations blanks to be filled out with the names of crippled children of which they may be conversant, with the hope that these blanks will be returned promptly. This appeal for interest and prompt action is made to enable the committee to make its report before November 20.

SOUTH CAROLINA

Additions to City Hospital.—The directors of the City Hospital decided to build an addition for negroes; $1,500 has been raised and the building will be ready in about thirty days.

Colored Physicians Organize.—Colored physicians of Charleston, October 9, made arrangements for the organization of the Charleston County Medical Association. Dr. J. M. Thompson was elected temporary chairman and Dr. M. M. Edwards temporary secretary.

TENNESSEE

New Officers.—At the eleventh annual meeting of the East Tennessee Medical Association, in Johnson City, October 11: president, Dr. H. M. Cass, Morristown; secretary-treasurer, Dr. H. P. Larimore, Chattanooga (reelected). The midyear meeting is to be held in Lenoir City and the next annual meeting in Greenville.

Personal.—Dr. and Mrs. William Likely Simpson, Memphis have returned after a year abroad.——Dr. J. Charles Wilson, Rockwood, was kicked by a horse, October 5, and sustained a compound fracture of the leg below the knee.——Dr. A. B. Thach has been appointed medical inspector of Nashville.—— Dr. Alexander Erskine, Memphis, celebrated his eightieth birthday anniversary, September 26.

VERMONT

Personal.—Dr. Lauder, Brattleboro, has been appointed a member of the hospital staff of the Mount Pleasant (Iowa) State Hospital.——Drs. George M. Sabin and G. E. Latour have been appointed medical inspectors of the schools of Burlington.

New Officers.—Washington County Medical Society in Barre: president, Dr. C. J. Rumrill, Randolph; secretary-treasurer, Dr. E. A. Colton, Montpelier.——Rutland County Medical and Surgical Society at Lake Bomaseen, near Rutland: president, Dr. E. L. Clark, Castleton; secretary-treasurer, Dr. William Stickney, Rutland.

Secretary of State Board Retires.—Dr. Henry D. Holton, Brattleboro, secretary and executive officer of the State Board of Health for twelve years, has resigned, to take effect Decem-

ber 1, and Dr. C. F. Dalton, Burlington, at present connected with the State Laboratory of Hygiene, will succeed him. Dr. Holton, while president of the Vermont Medical Society in 1873, suggested in his annual address the necessity of a state board of health, and a committee was appointed to take the matter up with the legislature. After thirteen years of work the bill was finally passed, creating the board. Dr. Holton was appointed a member of the board in 1896, and four years later was made its secretary.

VIRGINIA

New Officers.—Roanoke Academy of Medicine, October 7: president, Dr. I. E. Huff; secretary, Dr. J. C. Hurst.

Health Staff Named.—Health Commissioner Schenck of Norfolk has reappointed Dr. A. P. Panill assistant health commissioner and chief of sanitation, and Dr. C. J. Andrews, assistant health commissioner, and Drs. George T. Myers, J. C. Sleet and C. D. J. MacDonald, city physicians.

New Officers for State Society.—At the forty-third annual meeting of the Medical Society of Virginia held in Norfolk, October 22-24, the following officers were elected: president, Dr. Southgate Leigh, Norfolk; vice-presidents, Drs. H. S. MacLean, Richmond, and McM. M. Pearson, Bristol; secretary, Dr. Paulus Irving, Farmville (reelected); and treasurer, Dr. Mark W. Peyser, Richmond. Lynchburg was chosen as the next place of meeting.

Personal.—Dr. J. B. Catlett, Staunton, who was operated on October 5 for appendicitis, is reported convalescent.——Dr. C. W. Fowlkes has resigned as assistant surgeon for the Pocahontas Consolidated Collieries Company, Boissevain, and has been succeeded by Dr. Charles E. Daniels.——Dr. Alexander G. Brown, Richmond, who has been critically ill, is reported improving.——Dr. A. B. Tucker, Berryville, who has been ill with rheumatism, has recovered and will resume practice November 1.——Dr. Allen W. Freeman, Richmond, who was operated on for appendicitis, has recovered and returned to Richmond.——Dr. W. M. Tunstall, Lovingston, was thrown from his horse in a runaway accident, October 17, sustaining a concussion of the brain, and is under treatment at the University Hospital, Charlottesville.

GENERAL AND FOREIGN

New Officers.—International Association of Medical Museums: president, Dr. A. S. Warthin, Ann Arbor, Mich.; secretary, Dr. Maude E. Abbott, McGill University, Montreal, Que.

Railway Surgeons to Meet.—The New York and New England Association of Railway Surgeons will hold its twenty-second annual session at the Hotel Astor, New York City, November 13, under the presidency of Dr. Walter Lathrop, Hazleton, Pa.

Latin-American Medical Congress.—The fifth Latin-American (sixth Pan-American) congress is to be held at Lima, Peru, in August, 1913. Special reports will be presented on diseases peculiar to the country, Peruvian verruga, typhus, uta and mountain sickness, local scientists being busily at work collecting new data on these subjects.

Wants Permanent Hygiene Exhibit.—Dr. Rupert Blue, surgeon-general of the U. S. P. H. Service, is making plans to establish a museum or permanent exhibit on sanitation and hygiene. It is one of the duties of the Public Health Service to disseminate knowledge of sanitation and hygiene, and he believes that this can be greatly promoted by such a permanent exhibit.

Public Drinking-Cup Prohibited.—An order promulgated October 19 by the United States Public Health Service prohibits the use of the public drinking-cup on rail or water common carriers engaged in interstate commerce. All water used for drinking purposes on trains and vessels on interstate runs must be certified as to purity and water containers must be scalded with steam at least once a week.

Death of Professor Segond.—The cable brings news of the death from uremia of Prof. Paul Segond of Paris, aged 61. He has been professor of surgery at the University of Paris since 1883 and long surgeon in chief at the Salpêtrière. He has published a number of works on surgical questions connected with the urogenital apparatus, esophagus, etc., including one in 1888 on removal of the ovaries in treatment of uterine fibromas.

New Mississippi Valley Officers.—At the thirty-eighth annual meeting of the Mississippi Valley Medical Association, held at the Hotel Sherman, Chicago, October 22-24, the following officers were elected: president, Dr. Albert E. Sterne, Indianapolis; vice-presidents, Drs. D'Orsay Hecht, Chicago, and Hugh Cabot, Boston; secretary, Dr. Henry Enos Tuley, Louisville (reelected), and treasurer, Dr. S. C. Stanton, Chicago (reelected). New Orleans was selected as the place of the meeting for 1913.

Personal.—Acting Assistant Surgeon W. F. James, U. S. P. H. Service, stationed at Honolulu, was commended in a letter October 17 by the Secretary of the Treasury for "humanitarian and unselfish action" in rescuing a Japanese woman from drowning in shark-infested waters near Honolulu, September 23.——Dr. Robert A. Backmann, U. S. N., who has been stationed at the Naval Hospital at Newport, R. I., will sail October 23 to take special study in France.——Dr. and Mrs. John Mason Little, Jr., St. Anthony, N. F., of the Labrador Medical Mission, returned on the mission schooner, *George B. Cluett*, October 15.

Red Cross Stamps Ready.—The Red Cross Christmas Seals are now on the market and show a new design. The committee on the prevention of tuberculosis has adopted the same motto as last year: "Every seal bought is a bullet in the fight against tuberculosis" and will take up the campaign for the sale of the stamps. The headquarters for the sale of the stamps is 1 Madison Avenue, New York. Booths for the sale of the stamps will soon be erected in all the large department stores and postoffices. The amount realized from the sale of the stamps has steadily increased from $135,000 in 1908 to $320,000 in 1911.

Tuberculosis Sunday.—Following the plan inaugurated several years ago, Sunday, October 27, was observed as Tuberculosis Sunday in the churches all over the country. The National Association for the Study and Prevention of Tuberculosis had prepared and sent to the churches an outline which might be followed by the pastors of the churches in their sermons on that day. This outline presented the important points for the education of the public in the manner in which tuberculosis should be treated and the measures to be followed for its prevention. Much stress was laid on the viciousness of the almost innumerable nostrums for tuberculosis. The reaching of a large proportion of the population of the whole country in one day with instruction and knowledge of this disease cannot help but prove of immense value in its eradication.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Oct. 12, 1912.

The Falling Birth-Rate

The continuously falling birth-rate in this country is exciting more discussion in the churches than anywhere else. At the annual church congress held by the members of the Anglican Church, Mr. W. C. Whetham, F.R.S., urged that the religious motive should be invoked to stay what he termed "the plague of empty cradles." Broadly speaking, he said that the deficiency of children was most marked among the thrifty skilled artisans and in the upper and professional classes. The predominant cause appeared to be voluntary limitation, for there was no evidence of decline in the natural fertility of the race. The average number of births maintained almost its normal level in families of Roman Catholic faith (which discountenances artificial restriction). There was an actual rise of 3 per cent. in the Irish birth-rate. It was not, however, the duty of either religion or science to urge on mankind unlimited reproduction, regardless of quality. When it was clear that children would be useless and degraded specimens of humanity, society should not tolerate their production.

The Lowest Birth-Rate on Record in Scotland

The decline of the English birth-rate is exactly paralleled in Scotland. The fifty-sixth annual report of the Registrar-General for 1910 has just been issued. The most noteworthy features are the lowness of the birth-rate, marriage-rate, death-rate and infant mortality. The births numbered 124,059, 4,610 less than in 1909 and 6,398 less than the average of the preceding five years and 7,368 less than the average of the preceding ten years. This is the smallest number of births registered since 1890. It amounts to 26.19 per thousand and is 1.14 below the preceding year, 1.87 less than the average of the preceding five years, 2.54 less than the average of the preceding ten years and is the lowest rate on record. The marriage-rate was 6.52 per thousand, which though 0.12 more than that of the previous year, is lower than any rate recorded since 1888. The death-rate for the year was 15.26, which is 0.59 less than that of the previous year, 1.08 less than the average of the preceding five years and 1.67 less than the average of the preceding ten years. The infant mortality was 108.3 per thousand children born, which, though 0.6 above

that of the previous year, is unusually low. The death-rates from all forms of tuberculosis continue to decrease and are the lowest recorded.

Artificial Milk Produced from Soya Beans

An artificial milk manufactured from soya beans, which is said to contain all the elements of the best cow's milk and can be used for the same purposes, was shown to a gathering of scientists in London. The artificial milk is said to be more digestible than ordinary milk and its cream more nourishing. It can be used for all cooking purposes and good cheese can be made from it, but it will not produce butter. As it is germ-free it will keep longer than cow's milk. The discovery is the work of three Germans who spent three years in perfecting it. The process of manufacture is simple and always produces the same result. It is not touched by hand or exposed to atmospheric influence until it is poured into bottles for delivery. The milk can be sold at 3 pence a quart (6 cents), which is 2 cents cheaper than the cost of London milk, and the cheese at 3 pence a pound.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Oct. 11, 1912.

The Fight Against Cancer

The Société médicale de Reims has issued an appeal to druggists and to midwives to wage a systematic war against cancer. The appeal explains that applications of remedies cannot stop the spreading of cancer and that these remedies ought to be forbidden as illusory and dangerous. The necessity of early operation is emphasized. Druggists, midwives and nurses should make this plain to cancer patients and should describe the fatal consequences if the disease is allowed to develop. Midwives, who are often the first to be consulted by patients with cancer of the breast or uterus, are urged to send the patients to a physician for immediate examination, and to advise this in all cases of loss of blood outside the regular monthly periods or after the menopause. Druggists are asked to refuse to treat wounds and all lesions which do not cicatrize, but spread and bleed.

International Conference for the Standardization of Analyses of Foodstuffs

In June, 1910, an international conference was held in Paris to promote the standardization of analytic methods, which had been recommended for twenty years by the Congress of Applied Chemistry, held successively at Rome, Paris, London and Berlin (THE JOURNAL, July 23, 1910, p. 325). This conference, in which representatives of seventeen countries took part, recognized the impossibility of establishing absolute uniformity in analytic methods. The advance in the science would soon make the analytic processes standardized by the conference out of date; but the members of the conference of 1910 were of one mind in believing that while different countries should be permitted to adopt and use their own methods for expressing the results of chemical analyses, it was of the utmost importance that a way should be found for translating these results into a common system of notation which might serve as an international language among chemists of the different countries. Therefore the conference of 1910 formulated a plan which has now been submitted to a second conference for adoption. This conference met October 7 at Paris by invitation of the French government. Whatever standards are adopted by the conference will be enforced in the countries which are represented in the conference. The French government hopes soon to introduce these standards in the government laboratories. The conference also will discuss and approve a plan for the creation of a permanent international board such as exists at Rome for agriculture, at Berne for the mail and telegraph, and at Paris for weights and measures. This international board will study all the official methods of analyzing foodstuffs in order to establish a means for reducing the results into common terms.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Oct. 12, 1912.

Personal

October 9, Professor Loebker, for many years the president of the Deutscher Aerztevereinsbund, died at the age of 58. He has conducted its affairs with great skill; especially in the serious conflicts which have repeatedly occurred on the one hand between the Krankenkassen and physicians, and on the other between the government and the German medical profession, he has been able by his marked shrewdness and energy to protect the interests of the German medical profession and to solve in a manner favorable to our profession the questions arising in the conflicts. In his opening addresses at the annual Aerztetage he was able to represent with a fine intelligence the spirit of German physicians. In 1877 Loebker became assistant at the anatomic institute of Greifswald, and in 1879 assistant in the surgical clinic. In 1889 he became director of the great miners' hospital at Bochum, where, as the result of his extensive scientific and practical knowledge, he carried on his work with exceptional success. His scientific work dealt chiefly with surgical affections of the bones and hookworm disease of miners. His work, entitled "Chirurgische Operationslehre" was published in several editions; further, he was a collaborator in several compilations. For the betterment of conditions of the profession, he acted also as president of the Westphalian Medical Chamber (*Aerztekammer*) and during the last two years as chairman of the executive committee of the organized Prussian Medical Chambers.

Medical and Charitable Institutions of Germany

There are in Germany at present, with a population of about sixty-one millions, 9,054 medical and charitable institutions, with 735,579 beds, namely: 3,258 general hospitals, 351 army and marine hospitals, 62 hospitals for miners, 365 asylums for the insane, idiots and epileptics, 381 tuberculosis sanatoria, 195 sanatoria for nervous diseases, 260 water cure sanatoria, 258 children's hospitals and homes, 149 lying-in and infant homes, 141 rescue, training and correction houses, 37 vacation colonies, 141 orphan homes, 225 sanatoria for internal diseases, 351 hospitals for surgical diseases, 333 clinics for women, 261 hospitals for eye diseases, 120 hospitals for the ear, nose and throat diseases, 78 special hospitals for skin and venereal diseases, 104 institutions for orthopedic and gymnastic treatment, 58 sanatoria for alcohol and drug addicts, 44 homes and sanatoria for the crippled, 48 institutions for the blind, 92 institutions for the deaf and dumb, 269 sanatoria for convalescents, 250 infirmaries, 932 homes and hospitals for the aged, 86 Krankenpensions and 89 various health resorts.

There are also 591 other health resorts, namely: 57 with mineral baths with cold and hot springs, simple or containing carbonic acid, 22 with alkaline springs, 95 salt springs and brine baths, 11 bitter springs, 45 with iron and chalybeate baths, 34 sulphur and 76 peat baths, 7 mud baths and 4 sand baths.

Life and Theory of a Principle that is Neither Material nor Physical

The old theory of vitalism which asserted the existence in the animal organism of a peculiar vital force that governed the body independently of physical and chemical laws and constituted the basis for the regular course of the vital functions, reappeared a few years ago under the form of neo-vitalism and has secured a considerable following. This theory of a soul or psychic factor is accepted not only by psychologists, but also by physicians, in spite of the fact that at an earlier period it was sharply attacked, particularly by Du Bois-Reymond, who devoted to it two of his well-known and spirited works. This theory has found a defender in the person of the professor of philosophy at Münster, Dr. Becher, who read an address on this subject at the meeting of scientists held this year in that city. In his address "Leben und Beseelung," which he delivered before the first general session, he opposed to the "mechanism" theory—the materialistic philosophy which teaches that all living organisms are peculiar physico-chemical machines—the psycho-vitalistic theory, according to which the soul is the life principle and leaves the body at death. Even the mechanist view arises from very old prescientific conceptions. The identification of the soul with the breath was the first step in materialism which led to the idea of biologic mechanism. So far as psychic processes are concerned, the intelligent holder of this theory cannot deny them. But as they cannot be fitted into the chain of physical causation, he must assume that they run parallel to the chain of physical causes in the brain. As opposed to this parallelism, Becher tried to justify the idea of a mutual action between body and psyche. In his opinion it is entirely permissible to assume psychic factors—factors which are neither material nor physical—in addition to the physico-chemical. The psychic factors, to be sure, must be conceived of as purely natural. With this conception neither the principle of natural causation nor that of conservation of energy will be violated, for it is a pure assumption that psychic and psycho-vital processes must from their very nature introduce an element of irregularity. The

exactness of physics and chemistry seems, however, unattainable in biology if we admit psychic factors which cannot be measured.

PSYCHIC FACTORS IN ANIMALS AND PLANTS

Objection is made to the assumption of psychic factors in the lower animals and plants. Becher remarks that to be sure they have not been demonstrated in them, but neither are the ether and the atoms directly demonstrable, but can only be logically deduced. The continuity in the succession of organic beings favors the conception of general possession of psychic properties (*allgemeine Beseelung*). The psychic properties in man are connected with the cerebral cortex or at any rate with nervous organs. Whether this is true of all psychic factors in man and animals is quite questionable. The view is constantly gaining ground that the function of memory is general in living matter. Memory is of fundamental importance for the learning of purposive movements. The memory fixes successful movements while excluding disturbing irritations; these movements can be immediately repeated when the stimulus is renewed. Thus a purposive movement arises by a process of selection from all sorts of purposeless tentative movements. English scientists particularly have produced proof of the wide-spread extent of this trial method in the animal kingdom. Its nature is that a stimulus excites at first all sorts of reactions until by chance a proper one is found which removes a disturbing irritant. If memory exists, the animal learns from this experience. If the stimulus is repeated the appropriate movement finally follows immediately without resort to other purposeless trial movements. Thus psychovitalism furnishes an explanation of the most varied purposive actions in animated nature.

It has been objected to the mechanism theory that it fails to explain the entirety of purposeful arrangements in nature, although many special cases might be explained by Darwin's law of natural selection. Psychovitalism need not deny the explanation of purposive action by natural selection; the latter might retain its significance for passive adaptations. It is not to be taken as a dogma that all organic adaptations shall be explained in the same way whether it be according to the selection theory of Darwin or by the psychic method of Lamarck. Radical hypotheses meet the greatest difficulties in view of the many-sided and manifold organic adaptations. In concluding, Becher called attention to the fact that the explanation of purposive actions by tentative reactions and retention by memory of the ones best adapted for the purpose in view does not exclude the mechanism theory. Even the actions depending on testing and learning are produced in a purely physical nervous medium according to the parallelistic theory. The old psycho-vitalist view of body and soul seems to him a hypothesis worthy of attention, although only as a hypothesis, needing definition and confirmation.

Marriages

CHARLES A. SPARROW, M.D., Worcester, Mass., to Miss Marguerite E. Bowen, of New Bedford, Mass., at Mattapoisett, Mass., October 12.

SELDEN SYLVESTER COWELL, M.D., Huntsdale, Pa., to KATHRYN REBECCA SHERK, M.D., of Camden, N. J., October 9.

THOMAS JEFFERSON GLASSCOCK, M.D., Hannaford, N. Dak., to Miss Sadie T. Sabre of Valley City, N. Dak., October 16.

WILLIAM LLOYD SHEEP, M.D., M. C., U. S. Army, to Miss Zaida Carroll Gannaway, at Lynchburg, Va., October 16.

HERBERT MARKELL GODDARD, M.D., Philadelphia, to Miss Janet W. Waddell of Wilkes-Barre, Pa., October 16.

WILLIAM HARRISON WEIRICH, M.D., Jacksonville, Ill., to Miss Virginia Walker of Waterloo, Ia., recently.

ORESTES AUGUSTINE BROWNSON, M.D., Dubuque, Ia., to Miss Marie Angell Gates of Chicago, October 21.

JOHN S. MONTGOMERY, M.D., to Miss Elizabeth Calfee, both of Milan, Mo., at Green City, Mo., October 5.

CLYDE LEIGH APPLEBY, M.D., to Miss Edna Frances Bragunier, both of Peabody, Kan., October 17.

FRANCIS PATRICK MCCARTHY, M.D., Boston, to Miss Emily Truesdell, in Louisville, Ky., October 16.

SAMUEL F. ZAHN, M.D., Philadelphia, to Miss Jennie M. Harrison of Ardmore, Pa., October 16.

MASON DAVID BRYANT, M.D., to Miss Alice Mary Hill, both of Lowell, Mass., October 16.

Deaths

Edwin R. Dibrell, M.D. University of Arkansas, Little Rock, 1882; University of Pennsylvania, Philadelphia, 1883; one of the most prominent practitioners of Arkansas and president of the Arkansas Medical Society; died at his home in Little Rock, October 20, from malignant disease, aged 54. Dr. Dibrell was a son of Dr. James A. Dibrell one of the pioneer physicians of Arkansas; he graduated with honors at the university and began practice in Mississippi, but after two years returned to Little Rock. He was a member of the American Medical Association; for 27 years professor of the practice of medicine in his alma mater; one of the founders of the Roots Memorial Hospital, the first city hospital of Little Rock, and visiting physician to the City Hospital. He was appointed a member of the State Board of Charities by Governor Donaghey and was instrumental in securing the appointment of Dr. Greene as superintendent of the State Hospital for Nervous Disease, Little Rock. Dr. Dibrell was a man of high integrity; a thorough and painstaking physician; a staunch upholder of the ethics of the profession; a beloved physician and an ideal friend.

Wooster Parker Giddings, M.D. Harvard Medical School, 1871; for several terms president of the Maine Medical Association, and vice-president of the Harvard Medical School Alumni Association; died at his home in Gardiner, October 16, from pneumonia, aged 72. After Dr. Giddings' graduation he practiced in Waltham, Mass., and later in Boston, where he was local surgeon to the Boston and Albany Railroad and a member of the Boston School Committee. In 1878 he removed to Gardiner where he soon gained a state-wide reputation as a surgeon. He was at one time a member of the Gardiner School Board, consulting surgeon to the city hospital, Augusta, and for seven years a member of the local board of United States pension examining surgeons.

Thomas D. Bradfield, M.D. Detroit Medical College, 1869; an honorary member of the Grand Rapids Academy of Medicine; a member of the consulting board of the Union Benevolent Association and Butterworth hospitals, Grand Rapids, Mich.; for several years president of the board of health and board of education; at one time health officer; consulting surgeon to the Soldiers' Home Hospital and for two terms a member of the state legislature from Keweenaw County; died at his home, October 13, aged 59.

Samuel Charles Emley, M.D. Rush Medical College, 1902; a member of the American Medical Association; associate professor of pathology and bacteriology in the University of Kansas; who gave up teaching in 1909 to take charge of the Kansas state anti-tuberculosis campaign; and who was operated on for abdominal disease at Rochester, Minn., August 10; died at his home in Kansas City, Kan., October 15, aged 37.

Samuel S. Birdsall, M.D. Bellevue Hospital Medical College, 1865; a member of the American Medical Association; a surgeon of volunteers during the Civil War; a prominent and highly-respected citizen of Susquehanna, Pa.; who was given a handsome loving cup by the board of trade of that place last year in appreciation of his work as a citizen; died at his home, October 12, from arteriosclerosis, aged 70.

James S. Ferguson, M.D. Medical College of Ohio, Cincinnati, 1861; surgeon of U. S. Volunteers during the Civil War; for forty-six years a practitioner of Camden, O.; for more than thirty years president of the Camden Building and Loan Association, and for several years vice-president of the First National Bank of Camden; died at his home, October 2, from senile debility, aged 77.

Hamblin B. Maben, M.D. Albany (N. Y.) Medical College, 1857; a surgeon of volunteers during the Civil War; formerly a member of the board of education and a trustee of the village of Ilion, N. Y.; expresident of the Kingston Physicians Association and Albany Medical College Alumni Association; died at his home in Kingston, N. Y., October 15, from acute gastritis, aged 79.

Alice Lillibridge, M.D. Women's Medical College of Pennsylvania, Philadelphia, 1900; a member of the American Medical Association and prominent in the propaganda on health and hygiene of women; died in the Dr. Reed Burns Private Hospital, Scranton, Pa., October 14, from heart disease, aged 43.

Macauley Arthur, M.D. Rush Medical College, 1877; a member of the Kentucky State Medical Association, and of the local board of the United States pension examiners; died at his home in Middlesboro, September 8, aged 62.

Benjamin Ropes Symonds, M.D. Harvard Medical School, 1883; a member of the Massachusetts Medical Society; city physician of Salem and a member of the Board of Health; a member of the surgical staff of the Salem Hospital; for several years assistant surgeon and surgeon of the Second Corps of Cadets, M. V. M.; died at his home in Salem, October 15, aged 55.

William Harmon Buchtel, M.D. Chicago Medical College, 1866; a member of the American Medical Association and the Western Gynecological Society; a pioneer practitioner of Denver and a medical officer of volunteers during the Civil War; at one time surgeon-general of Colorado; was found dead in his office in Denver, October 15, from cerebral hemorrhage, aged 67.

Joseph William Day, M.D. Graffenberg Institute, Dadeville, Ala., 1857; Tulane University, New Orleans, 1884; a member of the American Medical Association; of Homer, La.; died in Shreveport, La., October 12, from senile debility, aged 78. The Claiborne Parish Medical Association attended the funeral in a body and physicians of Homer acted as pallbearers.

Thomas Joseph Bennett Dillon, M.D. Royal College of Physicians and Surgeons, Dublin, Ireland, 1884; of Boston; a member of the national executive committee of the United Irish League; died in the Massachusetts General Hospital, October 16, while being anesthetized for an operation for malignant disease of the throat, aged 50.

Arthur Ricketson, M.D. Harvard Medical School, 1860; a member of the Massachusetts Medical Society; acting assistant surgeon in the Navy during the Civil War; one of the oldest residents of New Bedford, Mass.; died at his home in that city, October 14, from cerebral hemorrhage, aged 77.

Levi Edwin Holmes, M.D. Bellevue Hospital Medical College, 1866; a pioneer practitioner of Helena, Mont.; surgeon in the Army during the Civil War and until 1869; grand master of the Odd Fellows of Montana; died suddenly at a hotel in Missoula, October 15, from angina pectoris, aged 71.

Jean I. Mackay Glidden, M.D. Hahnemann Medical College, Chicago, 1886; of Mount Carroll, Ill.; died in the Globe Hospital, Freeport, October 14, aged 52, from the effects of burns suffered last May at her office in Mount Carroll the result of the explosion of a pot of paint.

Henry Chavanne, M.D. Jefferson Medical College, 1887; a member of the Medical Society of New Jersey; for many years secretary-treasurer of the Salem County Medical Society, and president of the board of health of Salem; died at his home, October 16, aged 65.

E. Holden Lansing, M.D. Physio-Eclectic Medical College, Cincinnati, 1872; formerly of Lewiston, Me., but for the last nine years retired and living on a farm in Oxford County; died in the Central Maine General Hospital, Lewiston, October 3, aged about 70.

Wilbur Solomon Rudy, M.D. Ohio Medical University, Columbus, 1897; a graduate in both dentistry and medicine; died in his office in Lima, Ohio., October 18, from the effects of phenol, believed to have been self-administered with suicidal intent, aged 46.

Oliver Morse, M.D. Louisville (Ky.) Medical College, 1875; a member of the State Medical Association of Texas and the Northwest Texas Medical Association; for four years physician of Parker County; died recently at his home, in Weatherford.

William Henry George, M.D. University of Michigan, Ann Arbor, 1869; one of the earliest settlers of Canton, Kan., and later a practitioner of McPherson; died in the McPherson Hospital, October 19, after an operation for appendicitis, aged 67.

James Warren Stipp, M.D. Bellevue Hospital Medical College, 1878; of Berkeley, Cal.; at one time local surgeon for the Southern Pacific System at El Paso, Tex.; died in the Roosevelt Hospital, Berkeley, October 14, from nephritis, aged 57.

Engelbrecht Nelson, M.D. College of Physicians and Surgeons, Chicago, 1901; a member of the American Medical Association; of South Chicago; died in the South Chicago Hospital, October 15, from carcinoma of the liver and mediastinum, aged 46.

Joseph C. Edgar, M.D. College of Physicians and Surgeons, Baltimore, 1881; a member of the American Medical Association; formerly of Holstein, Ia.; died at his home in Pomona, Cal., October 8, from cerebral hemorrhage, aged 65.

Thomas Francis Riley, M.D. Drake University, Des Moines, Ia., 1890; formerly city physician of Des Moines and of Polk County; died at his home in Waterloo, Ia., October 14, from disease of the lungs and kidneys, aged 47.

John E. Link, M.D. Chicago Medical College, 1865; surgeon of U. S. Volunteers during the Civil War; at one time a member of the faculty of an Indianapolis medical college; for several years local surgeon at Terre Haute for the Vandalia Railroad; died at his home in West Terre Haute, October 13, aged 73.

Bradley Wakeman Yielding, M.D. Medico-Chirurgical College, Philadelphia, 1899; of Meshoppen, Pa.; was crushed to death under his automobile, October 11, on the road between Meshoppen and Laceyville, aged 45.

Thomas Croswell Gower, M.D. Medical College of Georgia, Augusta, 1867; a member of the Medical Association of Georgia; died at his home in Gainesville, October 4, from cerebral hemorrhage, aged 71.

Thomas Spaulding, M.D. Eclectic Medical Institute, Cincinnati, 1870; formerly of Terre Haute, Ind.; a member of the legislature from Vigo County in 1894; died at his home in Los Angeles, Cal., recently.

Sidney Davis, M.D. University of Pennsylvania, Philadelphia, 1877; a member of the Medical Society of the State of Pennsylvania; died at his home in Milton, October 17, from heart disease, aged 60.

Anthony Wayne Johnson, Jr., M.D. Vanderbilt University, Nashville, Tenn., 1879; for several years a practitioner and orange grower of Arcadia, Fla.; died in Nashville, Tenn., October 15, aged 72.

John Darragh, M.D. Eclectic Medical Institute, Cincinnati, 1895; for more than twenty years a practitioner of Cincinnati; died at his home, October 14, from cerebral hemorrhage, aged 57.

Charles S. Spitler, M.D. Medical College of Ohio, Cincinnati, 1892; a member of the Indiana State Medical Association; died at his home in Mooreland, October 16, from nephritis, aged 45.

William F. Burg, M.D. Hahnemann Medical College, Chicago, 1881; for twenty years a practitioner of Denver; died in St. Anthony's Hospital, in that city, October 10, aged 52.

Louis Henry Duwelius, M.D. Miami Medical College, Cincinnati, 1888; of Briscoe, Mo.; who was operated on for appendicitis, September 26; died at his home, October 7, aged 54.

Robert Flint Smick, M.D. Cooper Medical College, San Francisco, 1906; of Roseburg, Ore.; was drowned while fishing in the Umpqua River, near Roseburg, October 15, aged 32.

Hiram D. Hattery, M.D. Miami Medical College, Cincinnati, 1874; for many years a member of the city council of Logansport, Ind.; died at his home, October 15, aged 65.

Oscar Leedom, M.D. University of Pennsylvania, Philadelphia, 1872; was found dead at his home in Plymouth Meeting, October 14, from cardiac dropsy, aged about 60.

Noble Benjamin Dean, M.D. University of the Victoria College, Coburg, Ont., 1860; a veteran of the Civil War; died at his home in Brighton, Ont., recently, aged 71.

Charles M. Cook, M.D. Louisville Medical College, 1893; a member of the State Medical Association of Texas; died at his home in Greenville, September 17, aged 53.

Walter Lee Ritter, M.D. Eclectic Medical Institute, Cincinnati, 1912; died at the home of his parents in Jersey Shore, Pa., October 10, from typhoid, aged 27.

Orville W. Hobbs, M.D. Medical College of Indiana, Indianapolis, 1881; died at his home in Dunreith, Ind., October 2, from cerebral hemorrhage, aged 64.

William Henry Macdonald, M.D. Harvard Medical School, 1862; of Antigonishe, N. S.; died recently in the Homewood Sanatorium, Guelph, Ont., aged 77.

Ned Mae Jeter, M.D. University of Maryland, Baltimore, 1887; died suddenly at his home in Millington, Md., October 15, from heart disease, aged 50.

Theodore P. Knapp, M.D. Hahnemann Medical College, Philadelphia, 1854; died at his home in Union, N. Y., September 25, from senile debility, aged 79.

Hugh Alexander Stewart, M.D. Trinity Medical College, Toronto, Ont., 1889; died recently at his home in Portage la Prairie, Man., aged 49.

Thomas Anderson, M.D. Chicago Homeopathic Medical College, 1878; died at his home, in Watertown, Mass., September 18, aged 75.

J. H. Jordan, M.D. Meharry Medical College, Nashville, Tenn., 1896; died at his home in Newnan, Ga., September 18.

William Manson, M.D. Rush Medical College, 1864; died at his home near Burlington, Kan., October 13.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

INCOMPATIBILITY OF SODIUM ACID PHOSPHATE AND HEXAMETHYLENAMIN

A writer in the *Pharmaceutical Journal and Pharmacist* (London) Oct. 12, 1912, p. 478, calls attention to incompatibility between sodium acid phosphate and hexamethylenamin, which was discovered through the complaints of a customer who had the following prescription of a London physician filled at an Isle of Wight pharmacy:

℞ Sodii acidi phosphatis..... ℥iss
Urotropin [hexamethylenaminæ] ..... ℥i
Aquam .....ad ℥xii

One ounce to be added to one pint of water and taken during the day.

The customer said that the mixture was different from what he had in London because it turned cloudy when added to water. This was easily explained as the water which he was now using was hard, containing a large proportion of calcium carbonate in solution, the cloudiness being due to a precipitate of calcium phosphate. The prescription was dispensed on several later occasions; sometimes the customer complained that the taste varied and that there was a lack of acidity. To determine if the trouble was in the sodium acid phosphate, three samples from different wholesale houses were tested for the amount of free acid present. The samples were practically identical, 0.2 gm. requiring for complete neutralization 12 c.c. of tenth-normal solution of sodium hydroxid. As the trouble was not found here, attempts were made to find whether the hexamethylenamin was decomposed by interaction with the free acid of the sodium acid phosphate. This hypothesis was confirmed.

It appears that hexamethylenamin, on being added to a warm solution of sodium acid phosphate, is completely decomposed into formaldehyd and ammonium phosphate, the sodium acid phosphate being also neutralized to a considerable extent. The same reaction takes place more slowly in the cold. Therefore the therapeutic effect of the two drugs is practically lost, as far as a solvent for urinary calculi is concerned. There is risk to the patient also, as no good results could follow from taking this combination, and valuable time would be wasted.

Association News

THE MINNEAPOLIS SESSION

A Preliminary Statement on Arrangements

Readers of THE JOURNAL will recall the fact that Minneapolis is to be the meeting-place and the University of Minnesota is to be the especial host of the American Medical Association in June, 1913.

The audience-halls and lecture-rooms of twenty-one university buildings will be at the service of the sections. Daily lunches are to be served on the campus, so that it will be unnecessary for members to seek their downtown hotels at the noon recess.

The University Armory will make an ideal place for registration offices, post-office and the Commercial Exhibits; the new medical building, now in process of equipment, will provide ample and admirable quarters for the Scientific Exhibit.

The hotels of Minneapolis and St. Paul, which will be found adequate for the entertainment of the members of the Association, will be reinforced by a number of fraternity houses and, if necessary, by private residences in the immediate neighborhood of the university.

Arrangements for hotel accommodations are in the hands of a committee of which Dr. S. Marx White, 424 Walnut Street, is chairman; members expecting to attend the meeting cannot send in their reservations too soon to suit the committee or to serve their own interests.

Minneapolis expects to play the host to the American Medical Association to the best of its ability and to the full measure of its well-known hospitality.

RICHARD OLDING BEARD, Minneapolis,
Chairman, Committee on Publicity and Press.

Correspondence

Nostrums and the Medical Profession—A Criticism from a Layman

To the Editor:—Permit me to call to your attention a disheartening instance of the average medical practitioner's *laissez-faire* attitude toward the "patent-medicine" evil. A year ago the *Wisconsin State Journal* of Madison, Wis., was purchased by Mr. Richard Lloyd Jones, who, on assuming control, decided to rid the publication of all fraudulent advertising, beginning with the fake medicines. At his request I listed those nostrums which, under a moderate interpretation of fair dealing with the public, I thought should be excluded. These he threw out, declaring his intention of keeping the paper free, in the future, from such matter.

What was my surprise, on visiting Madison recently, to find in the pages of the *Journal* several typically quack advertisements, including that of Duffy's Malt Whisky. Naturally I asked Mr. Jones the reason for his apparent backsliding.

"No backsliding at all," said he, "I accepted that advertisement on professional medical advice."

"Then you'd best change your physician," I suggested.

"Not one physician alone, but four, all of them well-known practitioners of this state, had the proof of that ad. referred to them by me together with several other advertisements about which I was doubtful. They said that there was no reason why I should not accept the business."

He then gave me the names of the physicians, who are all men of good standing in their communities.

"I was reluctant," he continued, "to accept the Duffy copy, because the *Journal* doesn't take liquor advertising. But my advisers assured me that it was a good and sound medicinal whisky [!] and that it was sold as a medicine only, and never over the bar [!!], so I accepted it."

On the same kind of authority he had admitted to his columns "Nurito," a rheumatism "cure," the self-exploitation (somewhat edited down by Mr. Jones) of an itinerant quack named Turbin, and some minor "cures."

Duffy's Malt Whisky he at once ordered out of the paper when I told him that elsewhere it was advertised to cure consumption. The others will go as soon as their brief contracts are out.

"But how is a newspaper publisher to know," demanded Mr. Jones, "what is reputable and what is not in the medical line, if he cannot rely on the opinion of regular physicians?"

That query I pass on to the medical profession at large. How is a layman, doing his honest best, to keep straight in these matters when those who should be his best advisers are either too careless or too ignorant to help?

SAMUEL HOPKINS ADAMS, Auburn, N. Y.

[COMMENT.—How, indeed! It is no excuse for members of the medical profession to plead either carelessness or ignorance in matters of this sort. It is our business to be informed on matters that so closely concern the public health. Do the physicians who thus stand sponsor for Duffy's Malt Whisky really believe that it is a "sure remedy" for "cholera, malaria and sunstroke?" Do they believe that this stuff actually "builds up the nerve tissues, tones up the heart, gives power to the brain, strength and elasticity to the muscles and richness to the blood?" In face of the fact that the modern, rational treatment of tuberculosis deprecates the use of alcohol, would these physicians assure their patients that Duffy's Malt Whisky is "wonderfully effective" in this disease? Yet some of the

latest advertisements of the Duffy fraud make all these assertions! A high-grade whisky has but a limited place in therapeutics; Duffy's Malt Whisky has none. Mr. Adams' query is pertinent. How *are* publishers of magazines and how is the general public to get information about frauds like Duffy's Malt Whisky except through the medical profession?—ED.]

Home for Widows and Orphans of Physicians

To the Editor:—It will be of interest to many members of the Association to learn that this home has been opened and is now in operation. It was founded Dec. 16, 1909, and the board of managers was organized on December 28. Jan. 11, 1912, we purchased a handsome residence at 1615 Bolton Street, 20 by 132 feet, in the best residence section of the city. We believe that it is the first institution of the sort ever founded, which seems strange, as we have found that there are many such persons needing succor and shelter. We think it ought to meet with favor with the profession at large because it admits without entrance or other fee the destitute widow and orphans of any reputable physician.

Such an undertaking involves great responsibility and expense, but we have persevered in our purpose through all our vicissitudes and now at last we begin to see the early fruition of our hopes.

The charity is dependent for maintenance on the subscriptions of our friends and we hope that many who read this will become annual subscribers. A sufficient number of such subscriptions would provide a permanent fund for maintenance and would lighten very much our burden. As soon as possible we shall begin a permanent endowment fund.

I urge that it is the duty of the profession to provide for its needy ones and we offer an opportunity for them to do this. The poorhouse stares many in the face; we are trying to save them from such humiliation and disgrace.

MRS. EUGENE F. CORDELL, President,
257 West Hoffman Street, Baltimore.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

SHOULD A BULLET BE REMOVED?

To the Editor:—Please inform me why the physicians attending Colonel Roosevelt thought it advisable to leave the bullet undisturbed. In my opinion, since the bullet is a foreign body, which may travel and cause destructive changes, and since in this instance the bullet is so superficially located that it is easily accessible, I think that it would have been best to remove it.

M. A. BERNSTEIN, M.D., Kenosha, Wis.

ANSWER.—An idea once fixed in the human mind is exceedingly difficult to eradicate and often descends from generation to generation long after the fallacy underlying the idea has been exposed. That all bullet-wounds should be probed and the bullet removed as soon as possible is one of these erroneous ideas. This idea seems to be fixed not only in the layman's mind, but unfortunately also in the minds of many physicians, notwithstanding the fact that ever since the Franco-Prussian war surgery has diligently taught that bullet-wounds should not be probed and that bullets after they are once lodged are harmless. Not only is probing useless; it may be actually dangerous. It is a common belief that a bullet imbedded in the soft parts is a dangerous thing and likely to cause trouble, but this is not the case. When a bullet is once lodged its power for evil is lost, except in a very small percentage of cases in which the bullet is lodged against the spinal cord, the brain or some equally important or delicate organ. The location of a bullet, therefore, is seldom of immediate importance, but it is very necessary to know what damage has been done by the bullet in transit.

A bullet-wound of the abdomen, which has not injured the intestine, a large blood-vessel or an important organ, is of little consequence, regardless of where the bullet may have lodged; but should the bullet have injured the intestine, so as to permit the escape of the intestinal contents into the peritoneal cavity, death is almost certain unless the patient be saved by a timely operation, even though the bullet may have escaped from the body.

A probe cannot give one the information desired but may cause much damage by introducing infection into the wound, by distributing it over a wider area or by reopening injured blood-vessels, etc., all of which, taken with the fact that it is almost always impossible to locate the bullet with the probe anyway, has long since placed a ban on the use of a probe in bullet-wounds. If it is desired to know the location of a bullet that has lodged in the body it can be readily determined by the use of the *x*-ray.

As already remarked, a bullet that has lodged is usually harmless and soon becomes encysted in almost any tissue of the body unless infection is carried in with the bullet, in which case suppuration will occur; an abscess from this cause should be treated just as an abscess from any other cause plus the removal of the foreign body. Fortunately, bullets do not, as a rule, carry in infection. Hence, it is unnecessary to pay any attention to them for the time being; in fact, it is better to let them alone until it is determined whether or not there is infection. Much tissue in the track of the bullet has been devitalized and complete rest should be given the part until this has been taken care of, and any meddling with it only increases the chances of infection. After the dangers of infection have passed, if the bullet is in an accessible location, it may be removed or not. It then becomes purely an operation of election.

Bullets do not travel in the soft parts and do not cause destructive changes, other than those due to infection which have been mentioned.

INCOMPATIBILITY OF MERCURY AND IODIDS

To the Editor:—My attention has just been called to this clipping: "Yvert cautions strongly against prescribing an ointment of yellow oxid of mercury or of calomel to be applied to the eyes of patients who are taking iodids in any form. He claims that the iodid acts on the mercury compound producing mercurous iodid, which in the presence of an excess of iodin decomposes into free mercury and the extremely caustic mercuric iodid." I do not know what it is from. I have never observed any deleterious influence from prescribing in this way, and am using mercuric iodid. Please tell me about it? DAVID W. WELLS, M.D., Boston.

ANSWER.—The incompatibility of potassium iodid given internally with local applications of mercury has long been known. The explanation is that in the case of calomel, mercurous chlorid is decomposed and mercuric iodid enters into solution. In case of application to the eye, an irritant salt of mercury is thus dissolved in the tears. In case of the yellow mercuric oxid the action is similar, mercuric iodid being formed and dissolved in the tears.

We do not understand what our correspondent means by saying that he is using mercuric iodid. Of course, the internal use of mercuric iodid in ordinary doses need produce no irritation; in the case referred to in the clipping it is the local formation of an unknown but excessive quantity of mercuric iodid which causes the irritation.

THE AVERAGE PHYSICIAN'S INCOME

To the Editor:—Please answer these questions in THE JOURNAL:

1. I am told by one who ought to know (a lawyer) that if a physician is legally qualified to practice medicine and surgery in any one state he can practice in any other state in the union without further examinations by virtue of the interstate commerce law. Is this the case?

2. I understand from authentic statistics that the average physician's income is $700 per year.

3. I also notice that in the advertisements of practices for sale in THE JOURNAL the amount of practice stated runs from $2,500 to $12,000 per year. Now, can you explain why it happens that only those physicians who have practices of from three to eighteen times the average practice ($700) wish to sell their practices? In all lines of business with which I am familiar the man who has a good thing does not care to sell. Are physicians so different from ordinary mortals that they do not want good things, or are the statements of the amount of their practices simply exaggerated?

A SUBSCRIBER.

ANSWER.—1. No.

2. There are no authentic statistics relating to the average physician's income, because it is practically impossible to secure the information. The average practitioner's income is certainly much higher than $700 a year.

3. The advertisements in THE JOURNAL come from such a large number of physicians that the chances for exceptional practices to be advertised are good. Conditions and circumstances frequently make it essential for a physician to dispose of a good paying practice. It will be noticed that advertisers sometimes say "Going to travel for a year," or "Compelled to leave by ill health," or "Good reasons for selling." The reasons

for leaving usually can be verified by the prospective purchaser on inquiry. Unless the income from a practice is above the average, the advertiser will hardly want to mention it in the advertisement. It would be amusing to read an advertisement offering to sell a practice with an income of $50 a month. When a physician has to leave a practice that pays only a small income, he is not likely to try to sell it at all. No doubt some advertisers exaggerate; but it would be very unpleasant to have a purchaser feel that the practice had been sold under false representations, and trouble might follow for the seller.

It is the endeavor of THE JOURNAL to insert only reliable advertisements; many are refused outright, and every week the advertising department has to tone down some advertisement and to write to the advertisers refusing to print it in the form in which it is submitted. It is a manifest impossibility, however, to investigate every one of the enormous number of classified advertisements published in THE JOURNAL. A classified advertisement is primarily intended to give notice concerning an opportunity and to enable prospective seller and purchaser to come together. Certainly no sensible man would purchase a practice until he has given the proposition personal attention, or has had some disinterested friend do so.

ACETYLSALICYLIC ACID AND ASPIRIN

To the Editor:—I wish to inquire whether aspirin is identical with acid acetylsalicylic, von Heyden, supplied by A. C. Smith, Windsor, Ont. A. A. RANSOM, M.D., Layton, N. J.

ANSWER.—Examinations reported in German pharmaceutical journals from time to time show that acetylsalicylic acid manufactured by reliable firms is of good quality and equal in every way to that sold under the proprietary name "aspirin." Acetylsalicylic acid is a definite chemical and when pure is the same, no matter who manufactures it. As the Fabrik von Heyden is an old, well-known firm, several of whose products are admitted to New and Nonofficial Remedies, the preparation referred to by our correspondent, if genuine, should be satisfactory. We say "if genuine," because the advertisement of A. C. Smith is not calculated to inspire confidence, since he appears to reside in Canada although he does business and claims to keep his supply in the United States.

There is another point, however, which must be considered in this connection. Because of the too great readiness with which patents are granted in the United States, and because of the construction of our patent law it has been possible for the Farbenfabriken of Elberfeld Co., which controls the trademark on the word "aspirin," to obtain in the United States a patent on acetylsalicylic acid, so as to secure a complete monopoly in this country.

Here are two interesting facts: 1. Acetylsalicylic acid was described in chemical literature many years before this patent was issued and therefore was presumably not patentable. 2. A patent on it has been allowed in no other country. Notwithstanding these facts, not only was a patent issued by our patent-office, but also it has been declared valid by at least two circuit courts. (It has never been passed on by a higher court, but it should be.) Here then we have a foreign firm given the sole right to sell this substance in the United States, under the name either of "aspirin" or of "acetylsalicylic acid," although it has not obtained and cannot obtain such an exclusive right in its own country.

While the injustice to American citizens is apparent, we advise for the present against having anything to do with any brand other than that of the Farbenfabriken of Elberfeld Co. It is our duty to respect the decrees of our courts, even though in this case the decision is unfortunate and works an injustice. It is much to be regretted that the law in this country sanctions and protects a monopoly on a product of acknowledged value in the treatment of human ailments, and which is common property in the country in which it is made; still this is no reason why the law should be violated.

LUNG-GERMINE

To the Editor:—I have a patient who insists on taking Lung-Germine, manufactured at Jackson, Mich. I thought I saw an analysis in THE JOURNAL, but have no back numbers. Perhaps you published a pamphlet on it. I enclose 6 cents in stamps. Any information you can give me will be appreciated.

C. C. COLLINS, M.D., Roachdale, Ind.

ANSWER.—Lung-Germine is a consumption cure fraud which was exposed in THE JOURNAL, Aug. 6, 1910, p. 517. It is essentially a mixture of sulphuric acid, wine fortified by alcohol, and water. The matter has been reprinted in pamphlet form (price 4 cents). It also appears as one of the articles in a larger pamphlet, "Consumption Cure Fakes" (price 6 cents), as well as in the book "Nostrums and Quackery" (price $1).

KENNEN SIE DIE WITZELSUCHT?

To the Editor:—I am puzzled over the word *Witzelsucht*, used by Drs. Atwood and Taylor in their article on "A Case of Traumatic Psychosis," etc., published in THE JOURNAL, Oct. 19, 1912, p. 1448. I fail to find this in my German dictionary. M. T. H.

ANSWER.—*Witzelsucht* is a tendency to tell stories with little wit or point, to make puns and laugh at them oneself. This term is well known to psychiatrists and is often used because we seem to have no brief equivalent in English to express this peculiar change in character liable to follow injury of the frontal lobe. Now that the term is explained our correspondent and others will doubtless recognize a tendency to *Witzelsucht* in various persons.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POSTGRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

CONFERENCE OF STATE SECRETARIES

One of the most important meetings since the reorganization of the American Medical Association at St. Paul, in 1901, was the Conference of the Secretaries of State Societies, called by the Committee on Uniform Regulation of Membership at the Association headquarters, Chicago, October 23 and 24. This committee was appointed in 1908, in accordance with a recommendation made in the Secretary's report for that year. At the Atlantic City session, last June, the committee summarized its reports for the last four years, and recommended that a conference of state secretaries be authorized to consider the entire question of membership conditions in the county, state and national organizations. This recommendation was referred to the Board of Trustees and a conference between the committee and the state secretaries was authorized by the Board of Trustees, to be held at the same time as the October meeting of the board. Appropriations were made for paying the expenses of all state secretaries who attended the meeting. The conference was called to order at 10:30 a. m., Wednesday, October 23, at the Association building in Chicago, by Dr. Thomas McDavitt, secretary of the Minnesota State Medical Association and chairman of the Committee on Uniform Regulation of Membership.

THE ATTENDANCE

Thirty-eight states were represented, the roll showing the following in attendance:

Dr. W. W. Watkins, Phoenix, Ariz.
Dr. C. P. Meriwether, Little Rock, Ark.
Dr. Philip Mills Jones, San Francisco, Cal.
Dr. G. W. K. Forrest, Wilmington, Del.
Dr. W. C. Lyle, Augusta, Ga.
Dr. E. E. Maxey, Boise, Ida.
Dr. E. W. Weis, Ottawa, Ill.
Dr. Charles N. Combs, Terre Haute, Ind.
Dr. J. W. Osborn, Des Moines, Iowa.
Dr. L. R. DeBuys, New Orleans, La.
Dr. W. B. Moulton, Portland, Maine.
Dr. W. S. Gardner, Baltimore, Md.
Dr. H. D. Arnold, Boston, Mass.
Dr. Wilfrid Haughey, Battle Creek, Mich.
Dr. Thomas McDavitt, St. Paul, Minn.
Dr. E. F. Howard, Vicksburg, Miss.
Dr. E. J. Goodwin, St. Louis, Mo.
Dr. H. D. Kistler, Butte, Mont.
Dr. Joseph M. Aikin, Omaha, Neb.
Dr. Martin A. Robison, Reno, Nev.
Dr. D. E. Sullivan, Concord, N. H.
Dr. Thomas N. Gray, East Orange, N. J.
Dr. R. E. McBride, Las Cruces, N. Mex.
Dr. John Ferrell, Raleigh, N. C.
Dr. H. J. Rowe, Casselton, N Dak.
Dr. J. H. J. Upham, Columbus, Ohio.
Dr. Claude A. Thompson, Muskogee, Okla.
Dr. M. B. Marcellus, Portland, Ore.
Dr. C. L. Stevens, Athens, Pa.
Dr. J. Perkins, Providence, R. I.
Dr. Edgar A. Hines, Seneca, S. C.
Dr. Perry Bromberg, Nashville, Tenn.
Dr. H. Taylor, Fort Worth, Tex.
Dr. W. B. Ewing, Salt Lake City, Utah.
Dr. C. H. Beecher, Burlington, Vt.
Dr. Grant Calhoun, Seattle, Wash.
Dr. Charles S. Sheldon, Madison, Wis.
Dr. W. H. Roberts, Sheridan, Wyo.

No representatives were sent from Alabama, Colorado, Connecticut, District of Columbia, Florida, Kansas, Kentucky, New York, South Dakota, Virginia and West Virginia. No effort was made to secure the attendance of the secretaries of the Hawaiian Territorial Medical Society, Medical Association of the Isthmian Canal Zone or the Philippine Islands Medical Society, as these secretaries were too far removed from the place of meeting to make it possible for them to attend.

THE PROGRAM

The following program was carried out:

1. Call to order, Dr. Thomas McDavitt.
2. History and Development of Membership in the American Medical Association and Its Component Parts, Dr. F. R. Green.
3. Some of the Difficulties of the Present Situation, Dr. A. R. Craig.
4. Remedies Proposed by the Committee, Dr. Thomas McDavitt.

DISCUSSION

A general discussion of membership regulation was conducted under the following heads:

1. Fiscal Year. Should the fiscal year coincide with the calendar year? Should the fiscal year be the same in all county and state societies?
2. Should membership expire automatically at the end of the calendar year, and a new roster for each county and state society be made with the beginning of each year?
3. When should membership reports from county secretaries to state secretaries be due?
4. Should the dues of new members, joining after the first of the year, be prorated for the remainder of the year?
5. Should an admission fee be required in addition to the annual dues?
6. Should uniform application blanks, receipt blanks, and membership and transfer cards be adopted?
7. Should constituent state associations hold charters from the American Medical Association?
8. Should a uniform plan for the transfer of members be adopted?

In addition to the above Dr. George H. Simmons, editor and general manager, discussed the question of membership in the American Medical Association, and the changes in name proposed by the Board of Trustees.

REPORT OF THE COMMITTEE ON RECOMMENDATIONS

After two days' discussion it was evident that the secretaries present were agreed as to the advisability of a uniform fiscal year for all parts of the organization, to coincide with the calendar year, and that they favored the expiration of membership at the end of each year and a complete revision of the membership rolls at the beginning of each year. The committee on recommendations, consisting of Dr. E. J. Goodwin, Missouri State Medical Association; Dr. Wilfrid Haughey, Michigan State Medical Society; Dr. Perry Bromberg, Tennessee State Medical Association; Dr. William S. Gardner, Medical and Chirurgical Faculty of Maryland, and Dr. F. R. Green, secretary of the committee and of the Council on Health and Public Instruction, brought in a report recommending the adoption of provisions on these two points, and that all other points be deferred for further consideration. The report of the committee follows:

The Committee on Recommendations herewith submits the following report:

1. We recommend that this conference endorse the plan of having the fiscal year coincide with the calendar year in all parts of the organization. We further recommend that secretaries of all state associations which have not already adopted this provision bring this matter to the attention of their associations and recommend its adoption.
2. We recommend that constituent state associations adopt provisions making dues in component societies payable on January 1 of each year, and requiring county secretaries to report to state secretaries all members in good standing, together with their per capita assessment for the current year not later than March 31. State societies desiring to do so may provide a shorter period.
3. The recommendation regarding the third question under discussion is covered by our recommendation of the second.
4. Regarding the prorating of dues, we recommend that this be made optional with each component society.
5. Regarding an admission fee for membership we recommend that this be made optional with component societies.
6. While the committee recognizes, as a general principle, that a uniform system of blanks for county and state societies is desirable, as soon as practicable, we recommend further consideration of this question at a later conference.
7. We recommend that the House of Delegates of the American Medical Association be asked to consider the advisability of issuing charters to constituent state associations.
8. We recognize the desirability and advantage of a uniform method of transfer, but this system cannot be established until there has been developed a greater uniformity in other details of organization. We therefore recommend that this question be made the subject of discussion at a future conference.
9. The committee recognizes the value of this conference to the state association secretaries, and to the purpose of organization; it therefore recommends that future conferences of this character be held.

The report of the committee was unanimously adopted by a rising vote. It was also moved and carried that the secretary be requested to send copies of the report to each state secretary and to each state journal, and that the proceedings of the conference, as published in the *Bulletin*, be furnished to each state secretary desiring them, in sufficient quantities to send one to each member of the state association. After a vote of thanks to the Board of Trustees for making this conference possible by the appropriation, the conference adjourned.

Society Proceedings

COMING MEETINGS

American Physiological Society, Cleveland, Dec. 26-28.
Clinical Cong. of Surgeons of North America, New York, Nov. 11-16.
Southern Medical Association, Jacksonville, Fla., Nov. 12-14.
Southern Surg. and Gynec. Assn., Old Point Comfort, Va., Dec. 17-19.
Western Surgical and Gynec. Assn., Cincinnati, Dec. 20-21.

INDIANA STATE MEDICAL ASSOCIATION

Annual Meeting, held at Indianapolis, Oct. 10-11, 1912

The President, DR. W. F. HOWAT, Hammond, in the Chair

Officers Elected

A list of the newly elected officers was published in THE JOURNAL, October 26, p. 1551.

Diagnosis of Indigestion

DR. JEWETT V. REED, Indianapolis: Chronic indigestion is the result of a serious underlying condition, which should be determined, for otherwise justice cannot be done the patient. If the cause cannot be definitely ascertained as being one amenable to medical treatment, the best interests of the patient lie in a timely exploratory incision.

DISCUSSION

DR. F. B. WYNN, Indianapolis: The dominant note of the paper is that there should be in cases having indigestion, gastric or intestinal, a thoroughness of diagnostic investigation. I do not like the classification of the essayist. It makes a medical group and a surgical group, and that tends to the very thing we do not want to do—getting the surgical men on one side and the medical on the other. That is not right; we want to get closer together. The necessity is for closer union between the medical men and the surgeons.

DR. A. B. GRAHAM, Indianapolis: Indigestion is a symptom, not a disease, and it is necessary for us to determine whether it is a primary or secondary condition, whether it is organic or anatomic, and whether it is purely functional or neurotic in character. A paper of this kind should stimulate us to better work as diagnosticians, and with a better conception of the etiology we will be able to apply an accurate and rational treatment to the disease.

DR. W. H. WATHEN, Louisville: This question is of equal interest to physician and surgeon. With a broader conception of what dyspepsia is and its correct treatment, there can be

no difference between the physician and the surgeon. There is no longer any reason why the physician should base his conclusions in diagnosis on theory, as he sometimes did in the past; he can base them on the results of clinical observations.

DR. GEORGE W. MCCASKEY, Ft. Wayne: The most important thing for us to do when we are confronted by a case of indigestion is to determine, not whether the case is medical or surgical, but whether it is intragastric or extragastric. We do not spend half enough time in getting the history of each individual case. If you will take a clue and follow it back you will frequently make a correct provisional diagnosis before you have finished the anamnesis.

DR. J. R. EASTMAN, Indianapolis: I want to call attention to the importance of distinguishing between these conditions in the abdomen which are surgical and those which are medical, which give rise practically always to some symptom-complex. I do not think Dr. Reed intended to convey the impression that he would operate on an abdomen the same as he would split open a watermelon; that is not the position of surgeons. But I do believe that many patients drift along who would be much better off if submitted to a properly made exploratory operation, which exploratory operation need not add to the gravity of the condition.

Treatment of Pulmonary Tuberculosis with Artificial Pneumothorax

DR. W. A. GEKLER, Rockville: It is very difficult with any of the means we have at our command to bring about healing of a cavity that has attained any considerable size. By compression of the lung we can often bring the walls of the cavity in apposition, and thus bring about complete and permanent healing. Just as we often put tuberculous joints in plaster casts to prevent movement and permit a scar to be formed, so do we put the lung in a cast of gas with the same end in view. The question at once arises whether the patients stay cured, or whether the disease will continue to make progress when the lung is allowed to expand. I can only relate what I myself have seen, and say that in those cases in which a satisfactory collapse was obtained the permanent results, even in far advanced cases, are often as good as we obtain with incipient cases treated by non-surgical methods—in other words, clinical cure. As a rule, we find adhesions sufficient to prevent satisfactory collapse of the lungs in about 25 per cent. of the cases in which we attempt to operate. We have, then, another weapon to use in our fight against tuberculosis, and while its use must of necessity be limited, it nevertheless can be employed in saving lives that are now hopelessly lost.

DISCUSSION

DR. CHARLES B. EMERSON, Indianapolis: I doubt if anything in medicine promises any more for a large number of cases than this treatment for advanced cases of pulmonary tuberculosis. We expect great things for this operation. It promises splendid things for the patient.

DR. THEODORE POTTER, Indianapolis: The thing you will meet in attempting to carry out this treatment is that there are so many cases in which there are adhesions that interfere with a thoroughgoing compression of the lung. While this treatment is old here as well as elsewhere, yet the things that mark the present scientific attempt to carry it out are: an attempt to regulate and record the pressure, to record the conditions in the chest by the use of the *x*-ray, and the intervention of surgery in the attempt to lessen the obstructions and to increase the number of cases in which they can secure a thoroughgoing compression of the lung.

Tuberculosis in Children

DR. T. VICTOR KEENE, Indianapolis: Excepting only the problem of nutrition, the problem of tuberculosis is the most important one of childhood. The old idea that tuberculosis in the child is largely a matter of local disease of the joints or glands, is thoroughly discredited. Tuberculosis in children, as in the adult, is more often of the pulmonary type. The most confusing symptom in a child is that it rarely involves either apex. The common location for the lesion is at about the nipples or slightly below and to the outside of them. The evidence all seems to indicate rather forcibly that the condition in the majority of these cases is really primarily a pulmonary one, with secondary localization in some gland or joint.

Tuberculin Treatment

DR. THEODORE POTTER, Indianapolis: Tuberculin is not of itself a curative or protective agent against tuberculosis. It is an agent which tends to stimulate the body to produce its own protection. It is an antibody generator, which makes demand on the body to react in the formation of antibodies. Our chief reliance in the treatment of tuberculosis is still the hygienic-dietetic plan, together with medicinal and surgical measures as rationally indicated. To these we may now add the tuberculin treatment, with a reasonable assurance of thereby increasing the prospect of recovery and the promise of enduring benefit.

Home Treatment of Tuberculosis

DR. W. T. S. DODDS, Indianapolis: Our duty as physicians in treating tuberculosis is, first, to preach a new religion—the salvation of the child from infectious and preventable diseases; second, to demand a suitable place for advanced consumptives to be cared for until they die; third, to demand better medical supervision in the schools; fourth, to teach that the state is interested in and should be responsible for the protection of children living in tuberculous homes; fifth, to insist that children be taught the value of the laws governing health before they become victims of disease.

DISCUSSION

DR. THOMAS BEASLEY, Danville: I wish to emphasize the fact that a great many of the cases of tuberculosis in children follow the infectious diseases of childhood. We should have a state law requiring inspection of school children, and competent physicians as inspectors.

DR. W. S. TOMLIN, Indianapolis: The site on which you can put your finger in tuberculous infection is by no means the point of entrance of that infection, and the man who in examining these cases follows routine methods will fall into greater and greater error.

DR. A. C. KIMBERLIN, Indianapolis: The psychologic management of these cases is important. The condition of the family and their financial resources is just as essential in the management of a case as to make a correct diagnosis. You cannot forget that mother with her children, or that husband with his limited income. You must offer something encouraging. If you take away their hope and confidence, I do not care what your treatment is, it will be ineffectual. We do not get close enough to these patients with psychologic treatment.

(To be continued)

AMERICAN ASSOCIATION FOR STUDY AND PREVENTION OF INFANT MORTALITY

Third Annual Meeting Held in Cleveland, Oct. 2-5, 1912.

The President, DR. CRESSY L. WILBUR, Washington, D. C., in the Chair

The officers elected were named in THE JOURNAL, October 12, page 1387.

Resolutions

The Association adopted the following resolutions:

Resolved, That the Association for Study and Prevention of Infant Mortality recommend, in addition to birth and mortality statistics, the collection and compilation of marriage, divorce, industrial and all such social statistics as may have a relation to the problem of infant mortality.

WHEREAS, It has been shown that valuable results have been obtained from the requirement for proper inspection of dairy farms and dairy depots, before granting a permit for the production and distribution of milk, and that the score-card has been of great assistance in recording the observations made at such inspections, therefore be it

Resolved, That the efforts that are being made to secure uniform standards for inspection and uniform methods for recording the results of inspection be approved.

WHEREAS, Constructive housing legislation is made difficult by the absence of comprehensive information relating to infant morbidity and mortality to bad housing, therefore be it

Resolved, That the association emphasize the necessity of such investigation as will, if possible, reduce to a scientific basis the cost of bad housing in terms of infant morbidity and mortality.

Some Measures Urgently Needed for Prevention of Infant Mortality in the United States

DR. CRESSY L. WILBUR, Washington, D. C.: Measures and activities on which special emphasis should be laid are the complete registration of vital statistics; greater insistence on breast-feeding; better training of physicians for the practice of obstetrics; the enforcement of standard rules for the control of milk, with full publicity with respect to good and bad milk-supplies; the pasteurization of all doubtful milk; the registration, instruction and control of midwives; advisory care of the expectant mother; the work of the visiting nurses and social workers; the exercise of special guardianship by the state over children born out of wedlock; continuation schools of home-making; sex hygiene, and race culture or practical eugenics.

The Legal Importance of Birth Registration

MR. ELMER W. EHLER, Harrisburg, Pa.: The frequent necessity of legal proof of birth is the best evidence of importance. The legal benefits of birth registration are dual in character: first, in perpetuating evidence safeguarding the civil rights of individuals, second, in assembling information which every state must possess in order to legislate wisely for the needs of its future citizens. The best evidence concerning a birth, as to time, place and parentage, is a written public record made at the time of birth or soon afterward by the person in attendance, or by the parents themselves. The personal interests of the child, helpless in itself, demand such a record and are ample justification for compulsory birth registration. If a state or a nation desires to anticipate the needs of succeeding generations and to legislate with wisdom as to their requirements, it must know how great its future population is to be and from what sources it is to be recruited. The knowledge necessary to direct the lines of progress and to weld the state to society can be gained only through effective registration laws. Such laws are constitutional and the methods of their enforcement well defined. No government can fulfil its obligation of social service to its people which ignores the records of their existence. In the absence of birth registration there is better legal evidence of the citizenship of naturalized foreign-born than of our own native people.

Utilization of Birth Records in the Administration of Bureaus of Child Labor, Infant Hygiene and Similar Agencies

DR. W. H. GUILFOY, New York: Attempts are made in thousands of cases to obtain employment certificates for children under 14 years of age, but the requirement of authentic proofs of the dates of birth prevents these attempted violations of the law, and many children of the age of 11, 12 or 13 years are rightfully returned to the schoolroom, notwithstanding the tearful protests of parents. The number of searches made by the Department of Health without cost to the applicant for the purpose of obtaining employment amounted to 22,859 in the year 1911 in the Borough of Manhattan; 50,000 searches were made during 1911 in order to enable children to obtain admission to school. One result of the stringent enforcement of the regulation demanding the birth certificate to be produced as evidence of the fact that a child is of school age has been a more ready compliance with the law requiring the registration of births within ten days of their occurrence. Legal procedures have been resorted to against persons who continued to ignore the regulation and within the past two years over 300 physicians have been fined from ten to one hundred dollars, mostly for technical violations of the law.

Mental Deficiency

DR. H. H. GODDARD, Vineland, N. J.: A surprisingly large percentage of people are of such low mentality that they are incapable of living a normal life. They do not have enough judgment or intelligence to do those things that make for happiness and prosperity. Moreover, it is in this group of people that the birth-rate is highest. Furthermore, because these parents are ignorant of how to take care of their children and because the children have inherited the parents' weaknesses, a large percentage die. They are not fit by endowment to survive and therefore Nature takes them away. Man, with his superior intelligence and his highly developed humanity, steps in and says that they must live. We will see to it that they do live. Another fact is that these people of low intelligence transmit that low intelligence to their children and consequently a large percentage of these children, if they live and grow up, will be mentally deficient, will always be a burden on society and more or less a burden to themselves. Therefore when we keep these people alive, we are simply laying up trouble for ourselves and for these same children. If our humanity will not allow us to let these children die as infants, our humanity certainly does not prevent us from insisting that they shall be the last of their race and shall never become parents of more children like themselves. If we shall ever come to the point where sterilization is looked on with favor and resorted to to help solve this problem to the fullest extent possible, it may be that such persons can be sterilized by the operation of vasectomy and then allowed to marry and live their lives in happiness with the certainty that there will be no issue to perpetuate the evil.

(To be continued)

INTERNATIONAL LEAGUE FOR THE STUDY AND PREVENTION OF EPILEPSY

Third Meeting held in Zurich, Switzerland, Sept. 6 and 7, 1912

Numerous neurologists, psychiatrists, and surgeons were present from the United States, Russia, Switzerland, Germany, France, Hungary, Holland, Denmark and Bulgaria. The principal subjects for discussion were "Salt Free Diet in the Treatment of Epilepsy" and "Alcoholic Epilepsy." Dr. A. Ulrich, of Zurich, showed, by tables and by the presentation of patients, the splendid results which were achieved by him by the use of tablets containing sodium bromid 1.0 gm., sodium chlorid 0.1 gm., and aromatic vegetable extracts to render food palatable with a minimum of sodium chlorid.

Professor Donath, of Budapest, gave an interesting historical survey of the development of the dietetic treatment and showed that from ancient Grecian medicine up to the nineteenth century the greatest emphasis was laid on a salt- and protein-poor diet and especially on the milk diet introduced some 200 years ago by Dr. Cheyne in England. The dietetic treatment of the disease was pushed into the background by the introduction of potassium bromid in 1851. Richet and Toulouse, as well as Balint, later happily combined salt-free diet with sodium bromid.

"Alcoholic Epilepsy" was discussed by Professor Tamburini of Rome, Dr. Anfimow of St. Petersburg, Dr. Bratz of Wuhlgarten, M. Forel of Yvorne and Professor Claude of Paris.

Professor Kümmel of Hamburg and Professor Sauerbruch of Zurich discussed the surgical treatment of epilepsy.

Dr. Veit of Wuhlgarten spoke on epileptic "Dämmerzustände;" Dr. Weeks of New Jersey presented a number of family trees, and Dr. Muskens of Amsterdam reported on reflex phenomena in both vertebrates and invertebrates, which stand in relation to the epileptic convulsion.

Continuing the discussion of alcoholic epilepsy and of the surgical treatment of the disease, Donath expressed his opinion that in epilepsy an operation may be recommended only when a circumscribed brain lesion, however small, may be demonstrated; he stated further that jacksonian epilepsy may be accompanied from the beginning by complete loss of consciousness, and that only close observation of the convulsive attack with reference to localized motor phenomena will permit its recognition.

Dr. Wyss of Zurich presented a paper on the pharmacologic basis of bromid therapy. Toulouse and Pieron presented their investigations on the causes which lead to frequent seizures. Lastly, Claude spoke on a new line of investigation which concerns itself with the internal secretions.

Dr. D. F. Weeks of Skillman, N. J., was elected president. Members in future will receive the periodical *Epilepsia* free.

The American National Association for the Study of Epilepsy and the Care and Treatment of Epileptics became in its entirety a national committee for the United States and America, while retaining its independent existence. The next meeting will be held in America.

PENNSYLVANIA STATE MEDICAL SOCIETY

Sixty-Second Annual Meeting, held in Scranton, Sept. 23-26, 1912

(Continued from page 1566)

Tuberculin in Tuberculous Adenitis of the Neck

DR. AMERICUS R. ALLEN, Carlisle: In cases in which the infection started from the tonsils, adenoids or teeth, improvement from tuberculin treatment has been more marked than in cases in which it was impossible to find the point of infection. In all cases in which the neck glands showed signs of softening or caseous degeneration they were allowed to proceed to the point where they opened spontaneously. When this occurred, the opening was enlarged and the cavity slightly curetted to remove any jelly-like material present. During the past eighteen months I have had forty of these patients under treatment with tuberculin. The rise in temperature varied from one to five degrees and lasted from twenty-four to thirty-six hours, rising less after each successive injection, until finally no rise occurred. The patients, except one in whom the weight remained stationary, showed an increase in weight. When one gland in a chain breaks down others are apt to do so and there is also danger of secondary infection. In the treatment of these cases, before tuberculin injections were begun, various alteratives, together with milk and egg diet, were used and this treatment was continued along with the tuberculin when its use was instituted; but, until the tuberculin was used, no increase in weight or marked improvement was noted. As a result of tuberculin a number of sinuses of the neck healed promptly. The tuberculin used was Koch's old tuberculin, and the initial dose was 2 minims of the serial dilution No. I, increasing 2 minims each injection until serial dilution No. V was reached, at which strength the injections were continued. Injections were given weekly. Tuberculin has a decided curative effect in all cases. Operative removal of these glands is to be deprecated, as the tuberculin treatment is efficacious and much more beneficial.

DR. GEORGE M. DORRANCE, Philadelphia: In twenty-four of the seventy-two cases which I have studied I found enlarged tonsils which showed tubercle bacilli when they were removed. All the other patients except three had decayed teeth and in two of these tubercle bacilli were found. I gave up tuberculin treatment a year or so ago because I thought I set up an acute tuberculosis in three patients. They had tuberculosis elsewhere and two of them became rapidly worse, apparently going on to a miliary type. As this had happened with others, I gave up and used roentgenotherapy in the remaining cases of the series all of which cleared up within from eight to twelve weeks, though some of them required a second treatment a few months later. I agree with Dr. Allen that, aside from removing tonsils, surgical work should be eliminated.

Vaccine Therapy in Tuberculous Bone and Joint Disease

DR. DAVID SILVER, Pittsburgh: It is difficult to form a satisfactory estimate of the value of tuberculin in the treatment of tuberculous bone and joint disease. It does not exert any action on the bacilli, but owes its efficacy to the reaction it sets up in the healthy tissues, thus increasing the body resistance in a manner similar to that in which hygienic measures act. Therefore, striking results can hardly be expected. It is difficult to gauge the dose properly; too small a dose is of no value, while one too large may paralyze the immunizing mechanism and possibly light up a latent focus. My own experience is limited to fifty cases, in which the inoculations were given by the clinical method. No definite influence on the mobility of the joints or striking decrease in the duration of the treatment has been observed; but the patients have improved generally and there has been a more rapid increase in weight. The treatment has been stopped in some cases because no improvement was noted, but in none has harm been done. There is sufficient evidence that tuberculin is a remedy of some value in the treatment of tuberculous disease of the bones and joints; just how much value has not been determined and probably will not be until a simple and accurate method of estimating dosage has been obtained. It is decidedly not a remedy for the busy practitioner.

DISCUSSION

DR. G. G. DAVIS, Philadelphia: I believe the conclusions of Dr. Silver are just. I have never been enthusiastic over the use of tuberculin, but I am convinced that it is of service in a few cases. In the treatment of tuberculous bone and joint diseases I am of the firm belief that results are absolutely proportionate to the personal skill and attention which these patient's receive. I am convinced that the bulk of the tuberculous cases will progress favorably under the means which Dr. Silver has stated, the ordinary constitutional means, and rest and protection. If that is so, then, if we submit a patient to the vaccine treatment, the tendency is to neglect the other line of treatment.

DR. MYER SOLIS-COHEN, Philadelphia: What method did Dr. Silver employ for regulating the dose of tuberculin? I want to mention a method which I have employed in pulmonary tuberculosis as a suggestion for its use in orthopedic tuberculosis. I have found that when the tuberculous patient improves, the proportion of lymphocytes in the blood is increased, and when the patient becomes worse, the proportion is diminished. In giving tuberculin I take the differential leukocytic count, and if the dosage given causes a rise in the percentage of lymphocytes, I consider it the proper dose, but if the proportion of lymphocytes falls, I consider that an excessive dose. The clinical results have borne out this blood-picture.

DR. DAVID SILVER, Pittsburgh: In regard to the method for regulating the dose, we tried to follow one similar to that described by White and Van Norman in which they go by the amount of skin reaction. The method which Dr. Cohen has just given seems to me an excellent one, and I shall certainly try it out and see how it compares with the other.

Acute Osteomyelitis

DR. JOHN H. GIBBON, Philadelphia: Exposure to cold and slight traumatism may be determining causes of acute osteomyelitis, but the real factor is the lodgment of a pus-producing organism in the marrow of the bone itself. It is here that the infection starts in practically all cases, a fact of great importance in the treatment. The staphylococcus and the streptococcus are the organisms most generally found. When infection occurs, the pus follows the line of least resistance and moves up and down the canal, then out through the epiphyseal line or through one of the foramina. The periosteum finally is destroyed and the pus makes its way into the surrounding tissues. A fatal error in diagnosis is to pronounce the case one of rheumatism. The frequency of this mistake is lamentable. The early diagnosis rests on high temperature, high leukocyte count and possibly delirium, together with localized pain, rigidity, localized tenderness, redness and edema. In the very acute cases in young children the treatment calls for the wisest surgical judgment. If there is localized tenderness and especially edema over the bones, immediate drainage of the medulla should be established without the use of the curet or chisel in the medullary canal. The periosteal blood-supply is cut off in many of these cases, and, if the medulla is curetted, the blood-supply from this source is also eliminated and extensive necrosis results. Portions of bone which become necrotic should be removed at a second operation two or three weeks after drainage. The ultimate results are much better if the second operation is not postponed too long.

DISCUSSION

DR. WILLIAM L. ESTES, South Bethlehem: These acute infections of the bone-marrow have but recently received the attention they deserved. Dr. Gibbon has emphasized a point which cannot be repeated too often, namely, that the medulla is affected in these cases and that no process of cure and no surgical measure has been carried to its legitimate extent until the medullary cavity has been opened and drained. It

has been shown by Murphy that if the earlier cases can be recognized, it is simply necessary to remove a tiny collection of pus just as a beginning phlegmon or tenosynovitis is cured by puncturing the exact point and emptying out the pus.

DR. G. G. DAVIS, Philadelphia: I believe that it is extremely difficult to recognize these cases and to differentiate them from rheumatism. There is one means of distinguishing them and that is by operating on the patients. No harm will be done by an early operation. It has been shown that the disease begins in the end of the diaphysis, and if one is in doubt as to whether the condition is rheumatic or osteomyelitic, an incision can be made at this point and the bone drilled with a one-eighth-inch drill, making two or three small holes.

The Treatment of Inguinal Hernia in Children

DR. E. W. MEREDITH, Pittsburgh: A more or less open funicular process is the essential factor in the etiology of hernia in the young. Closing of the funicular process by ligature imitates the normal obliteration at birth and should be done early in life, with the least possible trauma to surrounding structures. The truss does not obliterate the funicular process and actual cure seldom if ever follows. Its use cannot be favorably recommended when the operative results both immediate and remote are so satisfactory.

DISCUSSION

DR. EDWARD B. HODGE, JR., Philadelphia: I agree with Dr. Meredith as to the success of the simple operation in children so long as the sac is tied high up. My experience is, however, that the separation of the delicate sac adherent to the cord is not always so easy as he implied. I believe that the truss will often cure in children of intelligent parents when carefully watched by the surgeon. In the usual run of hospital patients I advise and practice early operation.

DR. JOHN H. GIBBON, Philadelphia: I think that the reason we do not obtain better results with the truss is that the truss treatment is entirely neglected by the physician. The patient is told to procure a truss but the physician does not follow up a case to see how well it acts.

(To be continued)

PHILADELPHIA COUNTY MEDICAL SOCIETY

Meeting held Sept. 18, 1912

The President, DR. L. JAY HAMMOND, in the Chair

Treatment of Scoliosis

DR. J. TORRANCE RUGH: The cure of fixed scoliosis has been accomplished by Dr. E. G. Abbott of Portland, Maine, by pressure applied to the chest in a manner opposite to that previously employed by orthopedists. Abbott was able to produce a typical scoliosis in a subject by flexing the body, making pressure laterally and anteriorly and fixing in a cast, and the same principle is involved in the correction of such a deformity. A patient of mine 12 years of age suffered from a fixed right dorsal scoliosis. Two weeks ago she was placed in the Abbott frame after the proper adjustment of pads and a plaster jacket was applied. Every third or fourth day a pad of felt has been inserted under the cast anteriorly to make continuous pressure, and by her inspiratory efforts the concave side of the ribs has been converted into a convexity, and in another week she will have been entirely overcorrected. This jacket will then be removed, an impression jacket will be applied and removed and another applied like the present one. A celluloid jacket will then be made which will maintain her in the overcorrected position until by the use of exercises she has regained the power to maintain herself in the erect posture which will require about six months. The principal features of the treatment are application of the jacket in the overcorrected position, maintenance of pressure, forced inspiratory efforts and ample room in the jacket for overcorrection.

Vernal Conjunctivitis

DR. AARON BRAV: Spring catarrh or vernal conjunctivitis bears a close resemblance to hay fever. Like hay fever it appears at a definite period in the summer season and recurs annually. Etiologically, it is probably caused by some germs carried by the summer plants. Three distinct types are recognized: the palpebral, bulbar and corneoscleral. All, however, have a common symptom, intense itching. The palpebral type shows a proliferative enlargement of the conjunctival tissues. There are large flat follicles on the upper conjunctiva. Some are very hard, cartilaginous in consistency and appear like polypoids with small pedicles and can easily be removed with curved scissors. The bulbar type shows itself in a brownish gray discoloration of the bulbar conjunctiva with one or two follicles at the inner upper conjunctival fold. The corneoscleral type appears as a circumcorneal hyperplasia of the corneoscleral junction overlapping the corneal tissue. The chief symptoms are the itching, which is very annoying, and the discharge. The character of this discharge differs from all other conjunctival inflammations. It is not mucopurulent but of a soft gelatinous nature. Patients usually demand relief from the severe itching and I find that a 5 per cent. solution of boroglycerid instilled every three hours is the best way to give the desired relief. Patients are usually free from annoyance during the winter season but the trouble recurs in the coming spring. The condition is often diagnosed as trachoma. It is a self-limited disease having no sequelæ.

Arthritis Deformans

DR. J. TORRANCE RUGH: Cases of arthritis deformans are very diverse in their etiology, but usually there is a septic focus in some part of the body which is responsible for the toxins which cause the joint irritations. In the involvement of a single joint, however, especially of the lower extremity, we must not lose sight of the *traumatism of function* as a causative factor. In a case recently seen both knees were involved and the skiagram showed a typical lipping of the articular edges of the joints as seen in arthritis deformans. There was present, however, marked weakness of both feet, with slight malposition and a history of overuse of the feet, for a period of years. Correction of the foot condition entirely relieved the trouble in the knees. This indicates that while the importance of the local focus of infection is not to be minimized, other factors such as traumatism of function must not be neglected.

DISCUSSION

DR. A. B. HIRSH: As Dr. Rugh has stated, we should never lose sight of the importance of searching for a septic focus in dealing with arthritis deformans. The majority of these cases have their origin in intestinal intoxication, usually in intestinal torpor. In the limited number of cases under treatment in my hands colonic flushing with the Wales tunneled rectal bougie daily for as long as ten days or two weeks has been employed. The patient is then brought to the office and the radiant light used, driving the rays into the tissues. This increases the local blood-supply and intestinal nutrition, bringing about more nearly normal bowel action. Beside minimal use of proteid foods, such cases should also have the application of the static wave current, a large metal plate being used over the upper part of the abdomen, and a moderate spark gap employed. The deformed joints should receive static spark treatment for variable periods of time. Marked improvement is thus obtained.

DR. HERMAN B. ALLYN: About two years ago I saw a girl 12 years old who had a moderately severe attack of arthritis deformans for a number of months and for the most part of the time was obliged to lie on a cot or in a steamer chair, suffering great pain in the affected joints. After nearly a year of treatment she recovered sufficiently to return to school. Shortly afterward she had an attack of tonsillitis of the pseudomembranous type, due to a pure culture of the *Staphylococcus pyogenes aureus*. Within a short time of the convalescence from the tonsillitis all the joint symptoms returned. The child was given bacterin from the *Staphylococcus pyogenes aureus* and recovered completely and very promptly. While the disease is of obscure etiology, there is a strong tendency to regard it as infectious in origin. I have also used the *Staphylococcus pyogenes aureus* bacterin in two or three other cases with benefit but not with the marked results which characterized the first case.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARKANSAS: Regular, Little Rock, November 12. Sec., Dr. F. T. Murphy, Brinkley; Homeopathic, Little Rock, November 12. Sec., Dr. P. C. Williams, Texarkana; Eclectic, Marion Hotel, Little Rock, November 12. Sec., Dr. C. E. Laws, Fort Smith.

CONNECTICUT: Regular, City Hall, New Haven, November 12. Sec., Dr. Charles A. Tuttle, 196 York Street; Homeopathic, Grace Hospital, New Haven, November 12. Sec., Dr. Edwin C. M. Hall, 82 Grand Avenue; Eclectic, New Haven, November 12. Sec., Dr. T. S. Hodge, 19 Main Street, Torrington.

FLORIDA: Regular, Jacksonville, November 11-12. Sec., Dr. J. D. Fernandez.

LOUISIANA: Regular, Tulane University, New Orleans, November 4-6. Sec., Dr. A. B. Brown, 108 Baronne Street; Homeopathic, New Orleans, November 4. Sec., Dr. Edward Harper, 702 Macheca Bldg.

MAINE: City Council Rooms, Portland, November 12-13. Sec., Dr. Frank W. Searle, 776 Congress Street.

MASSACHUSETTS: State House, Boston, November 12-14. Sec., Dr. Edwin B. Harvey, Room 159, State House.

NEBRASKA: State House, Lincoln, November 13-14. Sec., Dr. C. P. Fall, Beatrice.

NEVADA: Carson City, November 4. Sec., Dr. S. L. Lee.

TEXAS: Dallas, November 13-14. Sec., Dr. J. D. Mitchell, Wheat Bldg., Fort Worth.

WEST VIRGINIA: Wheeling, November 11-13. Sec., Dr. H. S. Barbee, Point Pleasant.

Tennessee May Report

Dr. C. A. Abernathy, secretary of the Tennessee State Board of Medical Examiners, reports the written and oral examinations held at Memphis, Nashville and Knoxville, May 1-2, 1912. The number of subjects examined in was 8; total number of questions asked, 64; percentage required to pass, 75. The total number of candidates examined was 390, of whom 313 passed, including 142 non-graduates, and 77 failed, including 52 non-graduates and one osteopath. Of the 77 who failed, 44 were issued temporary licenses, including 33 non-graduates. Ten candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Birmingham Medical College	(1911)	76, 82
College of Physicians and Surgeons, Little Rock, Ark.	(1911)	81
University of Southern California	(1910)	94
Hospital College of Medicine, Atlanta, Ga.	(1911)	79
Northwestern University Medical School	(1910)	83
Hahnemann Medical College and Hospital, Chicago	(1909)	77
Bennett Medical College	(1911)	86
Rush Medical College	(1910)	94
Central College of Phys. and Surg., Indianapolis	(1901)	78
Curtis Physio-Medical College, Indianapolis	(1895)	80
University of Louisville (1910) 89; (1911) 83, 85; (1912) 75, 77, 80, 81, 83, 84, 86, 86, 87, 89.		
Louisville Medical College	(1903)	83
Louisville National Medical College	(1911)	75
Kentucky School of Medicine	(1902)	78
Mississippi Medical College	(1912)	75, 78, 82, 83
Ensworth Medical College, St. Joseph	(1908)	84
Barnes Medical College (1905) 76.6;	(1916)	80
American Medical College	(1912)	84.6, 76
New York University Medical College	(1883)	75
Lincoln Medical College	(1911)	81
Western Reserve University	(1909)	84, 87
Eclectic Medical College, Cincinnati	(1912)	77, 88
University of Pennsylvania	(1910)	88
University of Tennessee (1904) 76; (1911) 86, 97; (1912) 75, 75, 78, 81, 84, 84, 84, 84, 86, 87, 87, 87, 87, 88, 88, 89, 93.		
Memphis Hospital Medical College (1906) 87; (1909) 75; (1911) 77, 85; (1912) 76, 77.6, 79, 79, 79, 81, 81, 82, 82, 83, 83, 83, 83, 84, 84, 85, 85, 85.1, 87, 87, 87, 87, 87, 88, 89, 89, 89, 89, 89, 90, 91, 91, 93.		
Lincoln Memorial University (1912) 75, 81, 84, 84, 85, 85, 86.1, 87, 88, 88, 91.		
Meharry Medical College (1908) 75; (1910) 77, 78, 79; (1911) 75, 76, 78; (1912) 77, 78, 78, 79, 79, 81, 81, 81, 83, 83, 83, 84, 85, 85, 86, 86, 87, 87, 87, 88, 88, 89, 90, 91.		
Vanderbilt University (1911) 79, 84; (1912) 81, 82, 85, 86, 86, 87, 87, 89, 89, 89, 90, 91, 96.		
Chattanooga Medical College (1905) 75;	(1910)	75
University of West Tennessee (1911) 82;	(1912)	80, 84, 87.
College of Physicians and Surgeons, Memphis (1911) 83,		87
Milwaukee Medical College (1912) 77, 86, 86, 87.		

Non-graduates: The grade of 75 was reached by three candidates; the grade of 76 by two; 77 by one; 78 and 79 by three each; 80 by fifteen; 81 by seven; 82 by five; 83 by ten; 84 by six; 85 by sixteen; 86 by nineteen; 87 by seventeen; 88 by eleven; 88.5 by one; 89 by six; 90 by five; 91 by four; 92 by three; 93 by four and the grade of 95 by one.

FAILED

College		
University of Alabama	(1891)	74*
Hospital Medical College, Atlanta, Ga.	(1911)	55
Louisville National Medical College	(1911) 24; (1912)	60
University of Louisville	(1912)	71*
Mississippi Medical College	(1911) 62, 64, 72*; (1912)	62
Memphis Hospital Medical College	(1910) 49; (1912)	64
Chattanooga Medical College	(1907)	67
University of Tennessee	(1901) 35; (1911)	73*
Meharry Medical College (1905) 66; (1907) 59, 70;* (1909) 68; (1911) 70;* (1912) 70.*		
Lincoln Memorial University	(1912) 72,*	72*
University of West Tennessee	(1909) 71;* (1912)	72*

Non-graduates: 0, 0, 18.4, 26.1, 34, 41.7, 46, 57, 62, 64, 64, 65, 66, 67, 67, 67.7, 68, 68, 69.

Non-graduates granted temporary licenses. The grades of 70 and 71 were reached by eight candidates each; the grade of 72 by nine; 73 by six and 74 by two.

*Granted temporary licenses. Note also that 33 non-graduates who failed were granted temporary licenses.

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Georgia College of Eclectic Medicine and Surgery (1911)	(1912)	Georgia
Hospital Medical College, Atlanta, Ga.	(1911)	Georgia
Indiana Medical College	(1906)	Indiana
University of Louisville	(1894)	Kentucky
Johns Hopkins University	(1909)	Georgia
Bellevue Hospital Medical College	(1897)	N. Carolina
University of Pennsylvania	(1909)	Maryland
Memphis Hospital Medical College	(1897)	Mississippi
Chattanooga Medical College	(1905)	Georgia

The following questions were asked:

ANATOMY

1. Name the bones that form the wrist and hand. 2. Name the bones, which, when joined together, form the shoulder-joint. 3. Describe the sternum and give number of bones connecting with it. 4. Name the muscles that flex and extend the arm at elbow-joint. 5. Describe the nasal fossae. 6. What bones enter into the formation of the nasal fossae? 7. Name the articulations of the occipital bone. 8. Give a general classification of bones, and describe each class.

PHYSIOLOGY

1. Define the terms of osmosis; (b) endosmosis; (c) exosmosis. 2. Describe ovulation. 3. How are the different sounds of the heart produced? 4. Name and describe the salivary glands. 5. Describe the act of micturition. 6. What constitutes a reflex act? Give an illustration. 7. How is audition accomplished? 8. Describe the red blood-corpuscles; (b) the white corpuscles; (c) what is phagocytosis?

PATHOLOGY

1. Describe a pathologic condition produced by excessive use of alcohol, other than its effect on the liver and stomach. 2. Describe a pathologic condition produced by tuberculosis, other than the lung. 3. Define torticollis, pleurodynia, hemiplegia, gastritis and gastralgia. 4. Give the pathology of pellagra. 5. Describe the pathology of the tonsils and pharynx in diphtheria. 6. Describe the pathology of the mucous membrane of the large intestines in mucous colitis. 7. Describe the pathology of the large intestines produced by constipation. 8. Give pathology of acute pleuritis.

CHEMISTRY

1. What is the usual composition of urinary calculi? Give the test for recognizing the principal ingredient. 2. What chemical reaction takes place when H_2O_2 is applied to sloughing wounds? 3. Give the chemical action of chlorinated lime in the disinfection of typhoid fever stools. 4. Describe your method of procedure in making a chemical examination of suspected urine. 5. Give an explanation of the formation of ammonia in the urine. 6. Give two chemical tests that you would use in water supposed to be contaminated by sewage. 7. Give the physical and chemical properties of hydrochloric acid. How is hydrochloric acid prepared? 8. Give tests for the purity of chloroform.

MATERIA MEDICA

1. Name four alkaloids of opium, and dose of each. 2. Name three principal salts of potassium and dose of each. 3. Name three medicines which act as galactogogues. 4. Name five drugs containing large quantities of tannic acid. 5. Name three of the most important mineral acids and give dose of each. 6. Name three medicines which produce rashes. 7. What are the effects of digitalis in medicinal doses? 8. What is the adult dose of the following tinctures: belladonna, aconite, valerian, veratrum and hyoscyamus.

SURGERY

1. State in detail how you would perform suprapubic cystotomy for the removal of a stone from the bladder. 2. Name five of the principal complications of gonorrheal urethritis in the male. 3. How would you prepare a patient for an anesthetic and what examination of patient would you make? 4. Give the signs of surgical anesthesia. Complications likely to occur during anesthesia. How would you combat them? 5. What is an aneurysm? Give symptoms and treatment. 6. What is acute osteomyelitis? Give causes, symptoms and treatment. 7. Give in detail the surgical method for the removal of the fluid in a case of ascites. 8. What are the indications for castration? Give in detail the method of operation.

PRACTICE

1. Define chlorosis. In what sex does it most frequently occur? Define leukemia. Name the organs and glands involved in the pathology of leukemia. 2. Define acute peritonitis. Give the causes. Briefly give a treatment, preventive and curative. 3. Define acute enterocolitis. Name the age and predisposing causes which produce this disease. Give treatment, preventive and curative. 4. Define fever, pyrexia. What is an antipyretic? Name some antipyretics you would use in fevers. 5. Define tuberculosis. Name some of the common forms of it. Give briefly a general treatment for pulmonary tuberculosis. 6. Give a clinical picture of an acute attack of appendicitis (typical). Give treatment. 7. Define locomotor ataxia. Name the structures involved in the pathology. Give general symptoms. 8. What is meant by the term, "neurosis"? Is heart palpitation a neurosis or an organic disease? Define tachycardia, brachycardia. What is arteriosclerosis?

OBSTETRIC.

1. Give in detail your management and duties in a case of labor, from its inception until the patient is convalescent. 2. Give the

physiology of fecundation. 3. What is the placenta? From what is it formed? What is its structure and what its functions? 4. What structures enter into the formation of the pelvic floor? 5. Name five of the most important signs of pregnancy and state the dates when they are most available. 6. Describe the various things you would suspect in a case of pregnancy with frequent or continuous hemorrhage. 7. What is your idea of the use of anesthetics in labor; what would you use? Why? What are some of the dangers from their use? 8. Under what conditions may shortening of the round ligament be justifiable? Describe the operation.

Book Notices

ARTERIOSCLEROSIS. Etiology, Pathology, Diagnosis, Prognosis, Prophylaxis and Treatment, with a Special Chapter on Blood-Pressure. By Louis M. Warfield, A.B., M.D., Assistant Superintendent and Resident Physician to Milwaukee County Hospital. With an Introduction by W. S. Thayer, M.D., Professor of Clinical Medicine, Johns Hopkins University. Cloth. Price, $2.50. Pp. 220, with 28 illustrations. St. Louis: C. V. Mosby Company, 1912.

It is a tribute both to the success of the first edition of this work and to the progress of pathologic and clinical science that a new edition is demanded four years after the first. During this time the advances have been so great that the second edition is practically a new book. This is due largely to the increasing use of instruments for measuring blood-pressure in clinical work and the great expansion of our knowledge of the variations of blood-pressure and of the clinical relations of high arterial tension and its associated disease, arteriosclerosis. The chapter on blood-pressure has been wholly rewritten so as to make clear to the physician the technic and the necessity for estimating both systolic and diastolic pressure. In a short introduction, Dr. W. S. Thayer calls attention to the too indiscriminate use of the term "arteriosclerosis," which has become so familiar to the public ear as to serve as a satisfying diagnosis when no more definite explanation of the symptoms can be supplied. With this popular use of the term has gone the tendency for the physician himself to rest satisfied with an incomplete diagnosis covered by this general term without inquiring minutely into the underlying causes and conditions. It is therefore high time that a brief and practical consideration of this condition be furnished to the practicing physician.

In considering the etiology of the disease, emphasis is placed on heredity, high tension and the toxemia which causes it, and on the damage done to the arterial walls by toxemia and infections. As an indication of the incompleteness of our information on this subject we may refer to the uncertain opinions and statements made regarding some of the agents most prominently named as having a causative relation to arteriosclerosis. Alcohol, which was formerly given first place, is now placed in doubt. "Just what rôle tobacco plays is difficult to say. . . . In how far the toxins absorbed from the intestinal tract are responsible for the production of arterial disease, it is not possible to say." These expressions of uncertainty show the incompleteness of our knowledge of arteriosclerosis and the need of further investigation of the influences of modern civilization which have brought this affection into such prominence as to be regarded by the public as a new disease.

The chapter on treatment is very conservative. The vasodilators are not credited with more than a transitory effect and the list of useful drugs is practically limited to the iodids, nitrites and aconite. It is somewhat surprising to find a recommendation of such a nostrum as ammonol in a book of such pretensions.

CAISSON SICKNESS AND THE PHYSIOLOGY OF WORK IN COMPRESSED AIR. By Leonard Hill, M.B., F.R.S. International Medical Monographs. Cloth. Price, $3 net. Pp. 255, with 66 illustrations. New York: Longmans, Green & Co., 1912.

Caisson sickness is a disease created by modern industry, and its symptoms are to a large extent reproducible by experiments. Its study forms the topic out of which the author has made an extremely interesting and instructive book. The first three chapters trace the evolution of diving from the work of the naked diver to the construction of the caisson with provisions for compression and renewal of air and the elaborate construction of locks. The nature of caisson sickness, the physiologic effects of compressed air, nitrogenous metabolism in the caisson, the effects on the blood, etc., are thoroughly discussed. The theory and practice of decompression form the subject of two chapters which are at the same time a treatise on prophylaxis. This is followed by the single chapter on the treatment of the disease, which is essentially recompression.

The book contains some records of valuable experimental work, and is the result of long experience. While it appeals to a comparatively small circle of medical men, it is a valuable contribution to a really important subject. The work is well illustrated with pictures of apparatus, drawings showing the microscopic appearance of the tissues, etc.

THE CONSTRUCTION OF DIETARIES ACCORDING TO THE CALORIE VALUES OF FOODS WITH TABLES AND A SCALED FOOD MAP, SPECIALLY PREPARED. By Joseph Smyth, M.D. Paper. Price, 1 shilling. Pp. 19. Dublin: Alex. Thom & Co., 1912.

The aim of this pamphlet is to give a clear account of the principles of the calorie values of food. The views of Chittenden are fully explained and endorsed by the author. Fisher's method of calculating food values and their diagrammatic representation are explained. The economic relations of food are also considered and a number of tables are given which indicate the composition and food value of various articles of diet. The work seems to be well done, and the pamphlet should be a valuable aid to any one who needs to make calculations, especially in feeding large groups, as in work houses, asylums, etc. An unfortunate typographical error occurs on the first page of the text, by which the word "grain" is substituted for the word "gram." This will, however, occasion no difficulty with intelligent and careful readers.

THE EXTRA PHARMACOPEIA OF MARTINDALE AND WESTCOTT. Revised by W. Harrison Martindale, Ph.D., F.C.S., and W. Wynn Westcott, M.B., D.P.H. Two Volumes. Fifteenth Edition. Leather. Price, Volume I, 14 shillings; Volume II, 2 shillings net. London: H. K. Lewis, 1912.

The increase of material has necessitated the publication of the fifteenth edition of the Extra Pharmacopeia in two volumes. Volume I contains a description of chemical and therapeutic properties of those extrapharmacopeial chemicals and drugs which have attracted particular attention in the medical and scientific world, while Volume II comprises analytical work, a large amount of which has been carried out in the laboratory of one of the authors. Volume I still contains about fifty pages more than the entire fourteenth edition and Volume II contains 370 pages. The work has been carefully revised with the excision of obsolete matter.

COMPENDIUM OF DISEASES OF THE SKIN. Based on an Analysis of Thirty Thousand Consecutive Cases with a Therapeutic Formulary. By L. Duncan Bulkley, A.M., M.D., Physician to the New York Skin and Cancer Hospital. Fifth Edition. Cloth. Price, $2 net. Pp. 286. New York: Paul B. Hoeber, 1912.

This is the fifth revised edition of the author's "Manual of Diseases of the Skin," and is based on an analysis of 30,000 consecutive cases as observed in private and public practice. It contains no illustrations or quotations from literature. Rare affections of the skin are not considered. The description of diseases and their diagnosis is clear and to the point. For local treatment such remedies mostly are quoted as have proved successful in the author's practice, and hygienic, dietetic and internal measures are fully considered. The value of the book is increased through the addition of a therapeutic formulary.

MATERIA MEDICA AND THERAPEUTICS, INCLUDING PHARMACY AND PHARMACOLOGY. By Reynold Webb Wilcox, M.A., M.D., LL.D., Consulting Physician to St. Mark's and to the Nassau Hospitals. Eighth Edition. Cloth. Price, $3 net. Pp. 832. Philadelphia: P. Blakiston's Son & Co., 1912.

By the elimination of duplicate statements and careful condensation of the text, the material which in the seventh edition was published in two volumes is here presented in a single volume. No marked changes appear. The work is divided into two parts, one dealing with materia medica and pharmacy and the other with pharmacology and therapeutics. It is to be hoped that in its present form the work will prove especially satisfactory to the student, who finds it advantageous to possess a single handy volume on this subject.

Medicolegal

Burning of Patient With Hot-Water Bottle in Physician's Private Hospital—After Treatment

(Fawcett vs. Ryder (N. D.), 135 N. W. R. 800)

The Supreme Court of North Dakota affirms a judgment for the plaintiff for $1,800 damages for injuries which the jury said were caused by his coming into contact with a hot-water bag through the defendant's negligence, in the latter's private hospital, after he had operated on him for appendicitis. The court holds that, in an action for negligently placing the plaintiff, a patient of the defendant physician, on or subject to contact with a hot-water bottle, causing injury to the plaintiff by burning, and while the plaintiff was unconscious after an operation on him for appendicitis, the question of negligence was for the jury to determine under all the evidence. The negligent acts of the nurses, his employees in a private hospital run for profit, in connection with the practice of medicine and surgery, by a physician and surgeon as owner and proprietor thereof, render the physician hospital owner liable as a master for acts of servant nurses resulting in injury to a patient who has intrusted himself to the physician for professional treatment and hospital nursing.

On the question of whether the evidence sustained the jury's finding of fact, the court says that it must be remembered that the plaintiff was unconscious when placed in the bed after the operation. As the result of his complaint of pain on his first coming to consciousness, the injury and its cause were simultaneously discovered. The size of the burn and its location were significant. The jury might in reason have concluded from the location of the injury in the middle of the back that the plaintiff had been placed in contact with the bottle carelessly left in the bed. Beyond all question the burn came from the bottle or its contents. As the testimony stood at the close of the plaintiff's case, reasonable men might conclude the water-bottle to have been dangerous to contact with the body, and that it was negligence to leave the same in such a position in the bed that it could come into contact with the insensible patient to his injury. As the defendant personally placed the plaintiff in bed, the jury had evidence on which to have found the negligence to have been the defendant's in not removing the bottle or in suffering it to remain where contact could be had by the plaintiff therewith. On the other hand, if the negligence was that of the nurse who prepared the bed, the authorities would still hold the defendant liable, the employment having been for hire and covering nursing and care after the operation.

Nor should an instruction have been given which would require the jury to find for the defendant if the plaintiff neglected to treat, or if he improperly treated, his injury, even though the jury found the injury was caused by and through the actionable negligence of the defendant. Such is not the law. The cause of action arose as soon as the injuries were received, and the plaintiff's right of recovery was not defeated by any subsequent neglect to cure himself of the injury suffered.

Blow Cause of Pott's Disease

(Texas & Pacific Railway Co. vs. Howell (U. S.) 32 S. C. Rep. 601)

The Supreme Court of the United States affirms a judgment for damages in favor of plaintiff Howell, who was injured while in the company's employ by being struck on the head by a piece of falling timber, and who claimed that the blow caused tuberculosis of the spine. The court says that there was ample evidence that the blow occasioned the development of his disease, although it was not discovered to be the Pott's disease, as it was called, for over a year. It was argued that if such a disease is due to the presence of tuberculosis germs in a man's system before the accident, the company ought not to be required to pay more than it would to a normal man. But the jury were warranted in finding that the disease was the direct result of the injury, as they were required to, by the instructions to them, before holding the company to answer for it.

Neglect of Wounded Employees

(Baptiste vs. Baptist (La.), 58 So. R. 702)

The Supreme Court of Louisiana holds that the master who neglects a wounded employee is liable for the resulting damage, although facts to render one liable were not shown in this case. The court says that there is no question but the master is liable who neglects his employee, immediately after the accident, in failing to send for medical assistance, and in having him taken care of for the time being; but this case was not one of absolute indifference and neglect, while in the case of North Central Railroad Co. vs. State, 29 Md. 420, cited by the plaintiff, there was unpardonable neglect and absolute indifference to the employee, which was the cause of suffering and cruel hardship.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Annals of Surgery, Philadelphia

October, LVI, No. 4, pp. 521-664

1 Tuberculosis of Kidney. T. Rovsing, Copenhagen.
2 *Gas Bacillus Infection, with Special Reference to Treatment. W. C. Cramp, New York.
3 *Mediastinal and Pericardial Infections in Relation to Emergency Abdominal Surgery. F. Cobb, Boston.
4 Transduodenal Choledochotomy for Stone in Ampulla of Vater with Fistulous Communication Between Gall-Bladder and Duodenum. E. M. Williams, Patterson, La.
5 Acute Phlegmonous Inflammation of Large Intestine. C. N. Dowd, New York.
6 Recognition and Treatment of Lesions of Right Iliac Fossa Other Than Appendicitis. C. H. Frazier, Philadelphia.
7 *Sprain-Fracture as Essential to Occurrence of Dislocation. G. G. Ross and L. F. Stewart, Philadelphia.
8 *Treatment of Intracapsular Fractures of Hip. G. G. Davis, Philadelphia.
9 *Treatment of Dislocation of Head of Radius Complicated by Fracture of Ulna. A. P. C. Ashhurst, Philadelphia.
10 *Freeing Fragments Preliminary to Operative Reduction of Fracture of Femur. J. C. A. Gerster, New York.

2. **Gas Bacillus Infection.**—From a study of twenty-five cases by Cramp it appears that when gas infection is once well established, its progress is rapid, destructive and certain to result in death without treatment. It appears also that those cases described as mild are either those in the incipient stage, where the case is discovered early, or those cases superficial to the deep fascia. In fifteen of the twenty-five cases reported from Bellevue and in many of the others, pain out of all proportion to the trauma coming on twelve to thirty-six hours after injury, was the first sign of trouble, and this was soon followed by a sudden rise in temperature. These manifestations seem to be the forerunner of this condition. Pus is seldom present, but any wound resulting from traumatism with a gangrenous appearance, coupled with a sudden rise in temperature and pain, even without the presence of gas in the wound or emphysema in the tissues, should excite suspicion and a smear should be taken immediately.

Its incubation has been variously estimated from twenty-four to forty-eight hours, which period seems, though, to have been reckoned from the time of injury to the time the case was first seen rather than to the time of the first manifestation, and no doubt the incubation is very short, as cases have been reported coming on eight, twelve and sixteen hours, respectively, after injury. It is also apparent that in those cases in which the disease is early recognized its progress is easily controlled by proper treatment.

Prophylaxis is probably the most important aspect of treatment. All wounds on which great force has been exerted, and especially those contaminated by soil and dirt-covered objects, should be treated as if infected with gas bacilli. They should be left open where possible and thoroughly irrigated with peroxid. They should be lightly bandaged and where possible even this should be discarded. They should be inspected frequently and frequently irrigated, and never incased in plaster.

On the first sign or symptom of infection, a smear should be taken and examined. The wound should be opened freely if sutured, and if on the extremities, where most of these infections occur, the limb should be placed in a bath or be continuously irrigated. If the condition is extensive, free incisions should be placed and the whole field widely exposed to air. No bandaging which excludes air should be employed, the limb being simply covered by a sheet or suspended in a tent.

3. **Mediastinal and Pericardial Infections.**—Cobb cites a case of a chronic obstructive process in the mediastinum, starting, in all probability, as an infection from the bronchial or mediastinal glands, possibly primary in the peritoneal cavity. This had already caused chronic hyperemia of the liver and marked enlargement, notwithstanding which the boy had felt perfectly well until the slight febrile attack following prolonged immersion in the salt water. Previous to this he had had no dyspnea, no abdominal pain and tenderness, although the liver was passively congested and enlarged on account of the mediastinal obstruction. The symptom complex was caused by the two factors, the acute pericardial infection and the chronic mediastinal obstruction with an enlarged liver. The infection and distention of the pericardium increased the mediastinal obstruction, increased the congestion of the liver, and added an element of perihepatic inflammation. The acute congestion of the liver following the pericardial infection by extreme stretching of its capsule added to the pain which the pericarditis alone would have caused and accounted for the exquisite and wide-spread tenderness.

7. **Sprain-Fracture and Dislocation.**—Clinical observation and animal experiments have convinced Ross and Stewart that practically all, if not all, dislocations are permitted by the primary occurrence of strain of tendons and ligaments, followed by avulsion of tendons, and then sprain-fracture or gross fracture. It is possible that some dislocations are permitted to occur by separation of the fibers of the capsule in place of by sprain-fracture or gross fracture. All dislocations should be skiagraphed and, if evidence of fracture is not found at first, pictures should be taken in many planes. All dislocations should be treated as if fracture had occurred, even in the event of negative skiagram evidence. Some sprain-fractures are too small to be shown by skiagram. Often there is spontaneous reduction of dislocations, and sprain-fracture or gross fracture is the only evidence left that can be detected by the Roentgen-ray. The sites of sprain-fractures or gross fractures provide the foci from which the osteoblasts issue, in those cases showing excessive callus or covering of joint surfaces with osseous tissue; moreover, the softer tissues found in joint cavities within a short time after the occurrence of dislocations are often in some stage of transformation into bony tissue. Sprain-fracture or fractures occurring consistently in experimental dislocations on cadavers mean nothing, since the stage to which degeneration has advanced determines whether the greater tensile strength remains in the tendons and ligaments or not. Whether the force be suddenly or slowly applied, sprain-fracture or fracture precedes the occurrence of practically all, if not all, dislocations.

8. **Intracapsular Fractures of Hip.**—Of all the methods suggested for the treatment of recent fractures of the hip, Davis is most partial to that orginally suggested by Phillips and later by Maxwell and advocated by Ruth of Iowa, many years ago. It consists of the usual longitudinal traction with weights and sand bags or other device to hold the foot vertical, supplemented by lateral traction by a weight over the side of the bed, drawing the upper portion of the thigh out. He has also obtained good results by the use of plaster of Paris, putting the limb up in extreme abduction as advised by Whitman in cases of children. Of these two methods the lateral traction is the one usually easier to apply and carry out.

9. **Dislocation of Head of Radius.**—In recent cases Ashhurst advises to secure reduction of the dislocated radial head, by arthrotomy and capsulorrhaphy, if necessary. When reduction is secured the associated fracture of the ulna almost invariably will fall into good position. If it does not, it may be fixed by suture or plate. In old cases with the ulna united attempt reduction of the dislocation by arthrotomy and retain the radius in place by capsulorrhaphy. If reduction after arthrotomy proves impossible, as it may if the ulna has united in bad position, it is better to excise the head of the radius than to interfere with the ulna, unless the deformity in the ulna is very extreme. In such cases osteotomy of the ulna may be done. In old cases with non-union of the ulna expose the ulnar fracture first, and after freeing the fragments, secure reduction of the dislocation (by arthrotomy if necessary, including capsulorrhaphy); then treat the ulnar fracture as if no dislocation had existed. In cases with musculospiral paralysis, excision of the radial head failed to secure a good result in one case (Zschock), and there is no evidence that reduction and capsulorrhaphy would not have been successful in two others (Albertin, Kammerer) in which excision was done.

10. **Fracture of Femur.**—The aponeurotic insertions of the muscles along the linea aspera can be considered as one structure. It constitutes one of the chief obstacles to the reduction of a femoral fracture. A blind division of this structure (tenotomy), as it lies covered by the ends of the fractured bone, Gerster says, is a foolhardy procedure, because of possible damage to the sciatic nerve or to the femoral vessels, and because of the difficulty of controlling hemorrhage in such a situation. By gradually kinking the limb at the point of fracture, and dividing the soft parts which hinder this attempt, the posterior aspect of both fragments becomes readily accessible. Usually the freeing of both fragments of their soft part attachments (including tendons) for an inch or so suffices; but if not, the linea aspera "tendons" can be exposed as before and a careful tenotomy be done. The procedure is said to be a simple, rapid and safe method for freeing the ends of fragments. It removes a large proportion of the resistance to reduction offered by the soft parts.

Boston Medical and Surgical Journal

October 17, CLXVII, No. 16, pp. 531-566

11 Function of Experimental Method in Course in Pathology. H. T. Karsner, Boston.
12 Practical Points in Treatment of Enlarged Cervical Lymph-Nodes in Children. J. S. Stone, Boston.
13 Midwives in Massachusetts. J. L. Huntington, Boston.
14 Chronic Invagination of Ileum, Secondary to Lipoma of Intestinal Wall. H. W. Goodall, Boston.

Bulletin of American Academy of Medicine, Easton, Pa.

October, XIII, No. 5, pp. 269-376

15 Relation of Immigration to Consumer. F. Kelley, New York.
16 Medical Study of Delinquent Girls. A. W. Taliant, Philadelphia.
17 Immigration Problem of To-Day. W. W. Husband, Washington.
18 Effect of Modern Immigrant on Our Industrial Centers. T. W. Grayson, Pittsburgh.
19 Remediable Conditions in Feeble-Minded and Backward. W. S. Cornell, Philadelphia.
20 *Teaching Hygiene in Public Schools; What Should Be Taught? Physician's View. S. Egbert, Philadelphia.
21 *Idem. P. Hughes, South Bethlehem, Pa.
22 *Teaching of Hygiene; Methods in Vogue. W. S. Steele, Harrisburg, Pa.
23 *How Should Hygiene Be Taught? L. Nusbaum, Philadelphia.
24 *Education for Better Parenthood. T. D. Wood, New York.

20, 21, 22, 23 and 24. Abstracted in THE JOURNAL, May 25, pp. 1632 and 1633.

Bulletin of Johns Hopkins Hospital, Baltimore

October, XXIII, No. 260, pp. 289-320

25 *Determination of Equilibrium in Human Body Between Acids and Bases, with Special Reference to Acidosis and Nephropathies. A. W. Sellards, Baltimore.
26 Embryonic Bands and Membrane About Cecum. J. M. Flint, New Haven, Conn.
27 *Reflex Albuminuria; Renal Albuminuria Secondary to Irritation of Urinary Bladder. F. A. Evans, H. M. N. Wynne and G. H. Whipple, Baltimore.

25. **Determination of Equilibrium in Human Body Between Acids and Bases.**—The tolerance of the body toward fixed bases was studied by Sellards by determining the amount of sodium bicarbonate which must be introduced into the body in order to render the urine alkaline. The following results were obtained: In normal individuals the ingestion of 5 grams of sodium bicarbonate is ordinarily sufficient to bring about the excretion of fixed bases in the urine, its reaction becoming alkaline, though in exceptional cases this quantity of bicarbonate is insufficient, 10 grams being necessary. The tolerance to sodium bicarbonate was tested in acidoses produced arti-

ficially, in five cases of diabetes, in an obscure toxemia, accompanied by an increased excretion of ammonia, and in a group of thirteen nephropathies. A slight grade of acidosis, resulting from a carbohydrate-free diet for a period of two to three days produced a small but definite rise in the tolerance to bicarbonate. A similar result was obtained in two cases by the ingestion of small quantities of a mineral acid. In the five patients with diabetes who were tested, the ordinary signs of acidosis were absent. In three of these patients the tolerance was normal; in two, however, it was definitely increased, the urine remaining acid after the administration of 30 grams of sodium bicarbonate. In the toxemic case in which the ammonia excretion was increased there appeared to be a primary disturbance of protein metabolism rather than an acidosis, with a secondary increase in ammonia. The tolerance in this case was normal. In the study of thirteen patients representing several types of nephropathies it was found that four comforming to the general type of a parenchymatous nephritis excreted carbonates readily, behaving in this respect like normal individuals. Consequently the tests on this group do not afford evidence of an acidosis, at least not in the generally accepted sense of the term. One patient with chronic diffuse nephritis also showed a normal tolerance but none of the remaining patients behaved in a normal manner. Two patients continued to excrete an acid urine after the intravenous injection of sodium bicarbonate in quantities of 60 and 130 grams, respectively.

27. **Reflex Albuminuria.**—The authors summarize the results of their experimental work as follows: The causation of a subacute cystitis by means of placing a foreign body in the lumen or wall of the urinary bladder is followed by an albuminuria of varying degree. The greater part of this albumin is derived from the renal secretion, as can be demonstrated by collecting urine from the ureter or from the washed bladder during diuresis. This renal albuminuria occurs in perfectly normal kidneys and may leave no trace of its occurrence in these normal organs, except the presence of hyaline casts and the resulting slight dilatation of the uriniferous tubules. Catheterization of the ureter without bladder irritation will cause no albuminuria. Chemical injury of the bladder mucosa may be associated with a reflex albuminuria, and in this irritated bladder some mechanical trauma (catheterization or irrigation) may be followed by a prompt and marked albuminuria. Further work is needed to determine whether this reflex albuminuria is found in human cases, but there is no reason to suppose these phenomena are limited to the urinary tract of the dog. It seems pretty clear that in these experiments on dogs we are dealing with a true nervous reflex in which stimuli applied to the bladder mucosa react with more or less promptness on the renal epithelium and modify its secretory activity.

California State Journal of Medicine, San Francisco

October, X, No. 10, pp. 399-448

28 Salvarsan in Obstinate Late Syphilitic Lesions of Palms, Soles and Mucous Membranes of Mouth. D. W. Montgomery, San Francisco.
29 Salvarsan in Syphilitic Disease of Nervous System. W. F. Schaller, San Francisco.
30 Twenty-Three Children Treated with Salvarsan. H. H. Yerington, San Francisco.
31 Early Diagnosis of Epidemic Poliomyelitis. R. L. Wilbur, San Francisco.
32 Three Closely Associated Cases of Acute Poliomyelitis. T. M. Williams, Palo Alto.
33 Dream-State of Delirium Tremens and Inadequacy of California Statutes in Not Covering Certain Conditions of Irresponsibility for Crime, Exemplified in Unusual Case. A. W. Holsholt, Stockton.
34 Chronic Intestinal Stasis. J. Eaves, San Francisco.

Canadian Medical Association Journal

October, II, No. 10, pp. 859-962

35 *Therapeutics of To-Day. A. D. Blackader, Montreal.
36 Diabetes Mellitus. A. J. Hodgson, Waukesha, Wis.
37 Traumatic Arthritis of Knee and Its Effects. S. A. Smith, Liverpool, England.
38 Medicine and English Literature. E. K. Broadus.

35. **Therapeutics of To-Day.**—That physicians attempt to use too many drugs of which their knowledge is not sufficiently exact to enable them to use them rationally and scientifically is Blackader's opinion. Added to the long list of old standard drugs, whose action is often forgotten or disregarded, he says, numberless new drugs, with an unknown or unproven action, have been foisted on the profession, and as a consequence we have to note a distinct tendency in many physicians to lag behind the scientific attainments of the present, and sluggishly to indulge in an imaginative empiricism that ends in nothing. Blackader believes it to be better for the physician's credit and for his patient's well being that his materia medica be limited to a comparatively small list of drugs, whose proven action he knows, rather than that he should roam over a long list of unknown and sometimes untried drugs, and use them in haphazard, complicated prescriptions.

In regard to the use of a few of our pharmacopeial drugs, he endorses some statements made by Osborne. There is no proprietary organic iron that will do more good than one of the inorganic salts of the pharmacopeia. Large doses of iron are not needed. Two or three grains of any non-irritating iron salt will supply more iron to the patient's stomach than his system can metabolize in as many days. The expensive, organic iron preparations, which furnish an enormous profit to manufacturing houses, have the only advantage that they supply the iron in very much smaller doses than the physician is accustomed to order, and, therefore, they appear to agree better. The strongest and one of the most irritating iron preparations is the tincture of iron, but one or two drops in a little syrup of lemon will give all the iron required for physiologic purposes: even a child will scarcely notice that it is taking anything disagreeable. Digestants are rarely needed. Diastase and pancreatin are destroyed by the acid gastric juice. Calcium glycerophosphate may have a definite value, but, if so, it appears to be the only glycerophosphate that has. All the salts of quinin have a value, but cinchonin and cinchonidin are much weaker, and have no advantage. Tasteless quinins have almost no value. Stimulating and sedative expectorant mixtures are apt to disturb the stomach, and often do more harm than good.

In all the salicylic acid preparations before the profession, the action obtained is simply a question of dosage. The proprietary preparations that furnish salicylic acid without its disagreeable effects, are either slowly and imperfectly absorbed or the amount of acid in them is small. If the dose of sodium salicylate were made smaller, the absence of unpleasant symptoms would be the same. In rheumatism, when it is necessary to have a prompt salicylic acid action these preparations either fail or, when pushed, give rise to symptoms similar to those produced by salicylic acid.

The subtleties of chemistry will yet provide the physician with many drugs having specific action against many forms of infection, and careful experiments may reveal more direct and definite methods of employing them. In anticipation of this time there has arisen a laudable effort among synthetic chemists to discover new derivatives from radicles possessing definite therapeutic powers; but it must be remembered that before any such new derivative can be recognized as having a therapeutic value, it must be carefully studied in a pharmacologic laboratory, and the reports presented must be free from secrecy and commercialism. At the present day numberless commercial houses are thrusting on the profession an enormous array of new drugs with new names, catchy and therapeutically suggestive, covering much secrecy and, Blackader adds, much knavery, about their composition. Of these, a few may have some slight value; the majority, unfortunately, have little or none, and some appear to be distinctly harmful. Of the exact action of these drugs for good or evil we have at present little knowledge, except the statements, which are invariably much prejudiced, of the commercial houses introducing them. Many of these so-called new drugs, introduced even by reputable houses, have been shown by analysis to be merely a mixture of old and well-known drugs, or to have a chemical composition differing greatly from the one given. It appears to Blackader, therefore, to be of the utmost importance that physicians should accept all unproved statements very cautiously and should still rely almost entirely on the standard, official preparations of which the exact composition and physiologic action is well known.

Journal of Iowa State Medical Society, Clinton

August, II, No. 2, pp. 89-152

39 Movement for Exact Treatment. G. M. Dock, St. Louis.
40 Undescended Testicle. A. L. Wright, Carroll.
41 Autogenous Vaccines in Treatment of Infectious Disease. H. M. Decker, Davenport.
42 Pseudoleukemia. N. Schilling, New Hampton.
43 Gastro-Intestinal Auto-Intoxication and Its Relation to Diseases of Eye. H. B. Gratiot, Dubuque.
44 Alcoholic Injections for Tri-Facial Neuralgia. F. A. Ely, Des Moines.
45 Uterine Displacements. C. F. Osborne, Hampton.
46 Nose and Throat, an Incubator. T. U. McMannus, Waterloo.
47 Infant-Feeding. C. H. Graening, Waverly.
48 Puerperal Septicemia. J. L. Scripture, Clarksville.
49 Washington County Hospital. C. A. Boice, Washington.

September, II, No. 3, pp. 153-224

50 *Malignant Tumors of Mesentery; Report of Case. P. E. Sawyer, Sioux City.
51 Salvarsan in Syphilis of Nervous System. F. A. Ely, Des Moines.
52 Prophylaxis and Non-Surgical Treatment of Chronic Arthritides. C. F. Starr, Mason City.
53 Suppurations of Kidney, Reporting Cases. O. J. Fay, Des Moines.
54 Spontaneous Rupture of Internal Carotid Artery Complicating Suppurative Otitis Media and Mastoiditis. L. L. Henninger, Council Bluffs.
55 Joint Complications in Scarlet Fever, with Particular Reference to Purulent Form. E. T. Edgerly, Ottumwa.
56 Epidemic Meningitis. B. S. Barnes, Shenandoah.
57 Ulcers of Stomach and Duodenum, with Outline of Indications for Treatment. A. M. Pond, Dubuque.
58 Lung Abscesses. L. D. Jay, Plainfield.
59 Visual Malfunction; Its Cause and Consequences. P. R. Wood, Marshalltown.
60 Principles in Nasal Surgery in Private Practice. H. G. Langworthy, Dubuque.

October, II, No. 3, pp. 225-296

61 *Molding of Public Opinion Regarding State Care of Epileptics. W. Pfannebecker, Sigourney.
62 Early Diagnosis in Mental Diseases. L. A. Beach, Cherokee.
63 Diagnostic Value of Tuberculin with Respect to Its Various Modes of Application. E. H. Dwelle, Northwood.
64 Etiology and Recognition of Aortic Insufficiency. C. P. Howard, Iowa City.
65 City Milk-Supply. O. P. Thompson, Waterloo.
66 Cholecystitis, with Cholesterin Stone Formation Following Gall-Bladder Drainage. C. S. James and J. W. Shuman, Centerville.
67 Hemolysis. F. S. Leonard, Cascade.
68 Some Abnormalities of Thyroid. B. C. Everall, Waterloo.

50 and 61. Abstracted in THE JOURNAL, May 25, pp. 1628 and 1629.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

September, IV, No. 1, pp. 1-95

69 Pulmonary Action of Vanadium, Together with Study of Peripheral Reactions to Metal. D. E. Jackson, St. Louis.
70 *Action of Heart in Anaphylactic Shock in Dog. A. B. Eisenbrey and R. M. Pearce, Philadelphia.
71 Production of Experimental Cephalic Coma. D. E. Jackson, St. Louis.
72 *Absorption of Drugs from Gastric Mucous Membrane; Strychnin Nitrate. A. H. Ryan, Pittsburgh.
73 *Pulmonary Action of Adrenals. D. E. Jackson, St. Louis.
74 Method of Standardizing Pituitary (Infundibular) Extracts. H. H. Dale and P. P. Laidlaw, Herne Hill, London.

70. **Heart in Anaphylactic Shock.**—Myocardiograph records made by Eisenbrey and Pearce show that the functional activity of the heart is not primarily affected by the injection of the "toxic" dose of horse serum in sensitized dogs. The rate and range of contractions remain unchanged even after the general blood-pressure has started on its abrupt fall. Subsequent changes in the character of the myocardiograph tracings are due to the incomplete filling of the right side of the heart consequent on the accumulation of the blood in the larger venous trunks, and particularly those of the splanchnic area. Inspection of the heart shows a marked decrease in the size of the right auricle and ventricle. The right ventricular wall appears flabby and collapsed during diastole but contracts during systole in rate, extent and regularity as it does before the injection. Early in the period of low blood-pressure the heart has been found to be functionally unimpaired when measures are taken to supply a sufficient volume of fluid to the right side of that organ. Later the heart muscle may suffer from anemia. No evidence is at hand to indicate that any possible vasoconstriction of the coronary or pulmonary vessels or action on the heart muscle itself is responsible for the characteristic fall in blood-pressure in anaphylactic shock in the dog. These conclusions are based on experiments on anaphylactic shock in the dog and there is no intention to apply them to the phenomena of the anaphylactic reaction in the cat, rabbit, guinea-pig or any other animal. Incidentally it has been shown that the fall in blood-pressure following the injection of dog's urine or peptone solution into the normal dog is likewise independent of action on the heart.

72. **Absorption of Strychnin from Stomach.**—Ryan found that strychnin nitrate in aqueous and alcoholic solutions is absorbed by the mucous membrane of the Pawlow miniature stomach in greater quantity than is indicated by previous experiments based on other methods. Strychnin nitrate in alcoholic solutions (10 and 20 per cent. alcohol) is not absorbed as readily as in aqueous solution. The first appearance of symptoms indicating the absorption of the drug occurs in about the same time in both classes of solutions. The later symptoms, spasms, could not be induced in a similar period of time with a quantity of the drug in alcoholic solution, which caused spasms when administered in aqueous solution, although the reflexes became greatly increased. Ligation of the pyloric and cardiac extremities of the stomach seems to alter its normal power for absorption.

73. **Pulmonary Action of Adrenals.**—The total results of Jackson's experiments bear out the opinion that in the intact animal one of the functions of the adrenals is to assist by means of their internal secretion in counteracting pathologic processes or products which tend to produce an abnormal broncho-constriction.

Laryngoscope, St. Louis

September, XXII, No. 9, pp. 1077-1156

75 Otitic Indications and Contra-Indications for Salvarsan Treatment of Syphilis. O. Beck, Vienna.
76 Salvarsan in Syphilis of Nose and Throat. F. C. Cobb and A. Post, Boston.
77 Effect of Salvarsan on Ear. C. E. Perkins, New York.
78 Syphilis of Upper Respiratory Tract Treated with Salvarsan. F. W. White, New York.
79 Wassermann Reaction and Salvarsan in Disease of Special Sense-Organs. E. R. Carpenter, El Paso, Tex.
80 Chancre of Tonsil; Report of Case. N. L. Wilson, Elizabeth, N. J.
81 Mastoid Sequestra Containing All Three Semicircular Canals, with Report of Subsequent Labyrinthine Reaction. J. M. Ingersoll, Cleveland.
82 Case of Sinus Thrombosis; Excision of Internal Jugular, with Recovery. C. W. Richardson, Washington, D. C.
83 Four Cases of Fracture of Larynx. W. Downie, Glasgow.
84 Ossification and Subsequent Expulsion of Both Arytenoid Cartilages; Causes Unknown. A. I. Weil, New Orleans.
85 Strictures and Diverticula of Esophagus. G. F. Keiper, Lafayette, Ind.
86 Curious Mishap During Bronchoscopic Examination. R. H. Johnston, Baltimore.
87 Tinnitus and Deafness; New Instrument for Their Relief. T. R. Chambers, Jersey City, N. J.

Medical Record, New York

October 19, LXXXII, No. 16, pp. 691-736

88 Syphilitic Psychoses. F. M. Barnes, Washington, D. C.
89 Surgical Psychoses. J. E. Mears, Philadelphia.
90 Significance and Management of Chronic Discharging Ears. A. Braun, New York.
91 How Department of Agriculture Treats Local Disease; Lesson in Comparative Psychiatry. B. Holmes, Celcago.
92 Differential Diagnosis of Alcoholic Coma. H. V. Gulle, New York.
93 *Case of Extirpation of Bladder for Malignant Disease. F. R. Hagner, Washington, D. C.
94 Celiac Parotitis in Course of Malignant Disease of Liver. D. I. Macht, Baltimore.

93. **Extirpation of Bladder for Malignant Disease.**—A large irregularly shaped tumor with a broad base involved the entire base of the bladder. The size of the base of the tumor was easily seen with a retrograde cystoscope. On December 5, a suprapubic cystotomy was performed under cocain and epinephrin anesthesia. At the time of operation the cystoscopic findings were confirmed, and a suprapubic drain was inserted. The patient was much more comfortable after this operation and his general condition improved. As the patient was in fairly good condition, the gravity of the case was explained to him and he was advised to have double nephrotomy with continuous drainage of the kidneys and subsequent removal of the bladder.

He was operated on December 15, under nitrous oxid and oxygen anesthesia. The operation chosen was Fowler's. After removal of the bladder the vessels were tied and the cavity was packed with sterile gauze, and the abdominal wound was closed, allowing vents for drainage. The patient was severely shocked from the operation, although the loss of blood was very small. Under stimulation and salt solution he rallied and did fairly well for one week; it appeared he was going

to recover from the operation. However, he complained bitterly of stinging in the anal region and great tenesmus whenever urine passed; there appeared to be no pain while the urine was collecting in the bowel. Sometimes he would retain his urine one and a half hours. It was a continual fight to get this patient to take his nourishment. He seemed to give up after the operation, making no effort to help in any way. There was no evidence of any abdominal infection and the one symptom he complained of was the pain and tenesmus during the passage of urine out of the rectum. The patient had very little fever, but a rapid pulse and a leukocytosis of 26,000. Unquestionably there was infection of both kidneys. He gradually grew weaker and died two weeks after the operation. No autopsy.

New York Medical Journal

October 19, XCVI, No. 16, pp. 773-824

95 *Treatment of Cancer on Biologic Principles. J. Ewing, New York.
96 Chronic Gonorrhea in Male. V. C. Pedersen, New York.
97 Blonds and Brunettes in Tropics. C. E. Woodruff, San Francisco.
98 Constipation and Anemia. R. Robinson, New York.
99 Diagnosis by Inspection. M. I. Knapp, New York.
100 General Surgical Infection; Use of Mixed Infection Vaccine (Schafer Phylacogen). C. A. Hill, Pittsburgh.
101 *Landmark and Technic for Thyroid Measurement. M. S. Woodbury, Clifton Springs, N. Y.
102 Early Diagnosis of Laryngeal Tuberculosis. W. Lamberson, New York.
103 Refraction With and Without Cyclopiegia. N. J. Weill, Pittsburgh.
104 Surgical Treatment of Pest Bubo. C. G. Roehr, Fort Pierce, Fla.

95. **Treatment of Cancer.**—From a general survey of present conditions Ewing concludes that the complexity of the problems seems to bar the hope that a specific treatment of cancer will shortly become of practical importance. Meantime, he says, it may not be amiss to suggest that the combination of several methods, each ineffective alone, may increase the palliative effects and even lead in occasional instances to a virtual cure of inoperable cancer.

101. **Landmark and Technic for Thyroid Measurement.**—To locate the upper pole of the lobe of the normal thyroid gland, first locate the most prominent eminence of the thyroid cartilage (Adam's apple), follow down the median line from 1.5 to 2 cm., to the space between the thyroid and cricoid cartilages; follow the inferior border of the thyroid cartilage laterally, about 1 to 1.5 cm. till the median end of the oblique ridge is felt; follow the oblique ridge upward and backward to its posterior end. Press the finger into the groove just below the oblique ridge and parallel to it. The upper side of the finger will rest against the oblique ridge—the lower side of the finger will come into contact with the upper pole of the thyroid lobe. The landmark, then, is the oblique ridge on the wing of the thyroid cartilage.

While carrying out the above described maneuver, slight extension of the neck, with or without rotation, is desirable. Woodbury usually prefers to have the neck partially rotated (away from the side which is being examined), as in that position the second step in examination follows rather more readily.

With the forefinger (right or left, depending on which side of the patient he stands) pressed firmly against the upper pole, the examiner should rotate the patient's chin (away from the side being examined) until it is as nearly over the opposite shoulder as is possible without undue extension on the sternomastoids; the neck should at the same time be extended, that is, the chin should be tilted up. The patient should be directed to let his head absolutely rest against the assistant's hand or whatever support is provided. If the sternomastoid is still too tense, the assistant should slightly flex the side of the patient's head on the chest, thus bringing the sternomastoid origin and insertion nearer together and so relaxing the muscle. Now, having the head in proper position, the examiner should place the tip of his free forefinger 1 to 1.5 cm. from the median line, just above the suprasternal notch, and should make rather firm pressure. He should then attempt, by pressing downward on the upper pole of the lobe, to bring the lower pole into contact with the lower examining finger. By slight readjustment of the lower finger, this is usually quite readily accomplished. When both poles are clearly felt, the patient should be instructed to swallow; the upper pole ascends beneath the upper examining finger and the lower pole moves out of contact with the lower finger, but is felt again as the lobe descends when the act of swallowing is completed. The assistant then measures the lobe with compasses under the direction of the examiner. For measuring the width of the lobe, Woodbury tries to select a line which is continuous with the lower margin of the isthmus of the gland. This measurement is usually easily made. With the neck moderately extended and rotated about 45 degress (away from the field of examination), the lobe is rolled under the forefinger and its width measured with the compasses.

Northwest Medicine, Seattle, Wash.

October, IV, No. 10, pp. 293-324

105 Some Phases of Modern Treatment of Tuberculosis. E. A. Pierce, Portland, Ore.
106 One Hundred and Fifty Cases of Open Pulmonary Tuberculosis. R. W. Matson, Portland, Ore.
107 Responsibility of Profession in Campaign Against Tuberculosis Among American Indians. J. N. Alley, Lapwai, Ida.
108 Use of Culture Products in Treatment of Tuberculosis. C. C. Browning, Los Angeles.
109 Diagnostic Value of Presenting Symptoms. C. S. Wilson, Tacoma, Wash.
110 Osteomyelitis. F. J. Fassett, Seattle, Wash.

Surgery, Gynecology and Obstetrics, Chicago

October, XV, No. 4, pp. 365-522

111 *Principles Underlying Surgical Treatment of Gastro-Intestinal Stasis Due to Causes Other Than Strictural or Ulcerative Conditions. R. C. Coffey, Portland, Ore.
112 Intestinal Diverticula; Their Etiology and Pathogenesis. B. F. McGrath, Rochester, Minn.
113 Treatment of Pyelitis. G. L. Hunner, Baltimore.
114 *Paget's Disease of Breast. F. E. McKenty, Montreal.
115 Nephro-Ureterectomy in Tuberculosis of Kidney. S. E. Tracy, Philadelphia.
116 *Uretero-Appendiceal Anastomosis. B. Kennedy, Indianapolis.
117 Clinical Importance of Horseshoe Kidney. D. N. Eisendrath, Chicago.
118 Attempt at Staining Sarcoma with Methyl-Blue in Living Patient (Negative). R. T. Morris, New York.
119 *Experiments in Treatment of Acute Anemia by Blood Transfusion and by Intravenous Saline Infusion. V. C. David and A. H. Curtis, Chicago.
120 *Curative Effect of Normal Animal Serum in Suppurative Processes. E. Gergo, Budapest, Hungary.
121 Cecum from a Surgical Standpoint. R. Russ, San Francisco.
122 Some Facts Not Generally Known Regarding Ephraim McDowell. A. H. Barkley, Lexington, Ky.
123 Pylorectomy by Basting-Stitch Method. H. H. Kerr, Washington, D. C.
124 New and Simple Form of Apparatus for Nitrous Oxid-Oxygen Anesthesia. J. M. Flint, New Haven, Conn.
125 Keloid Formation in Scar After Mastoid Operation. E. Amberg, Detroit.
126 *New Retractor-Drain in Treatment of Small Infected Wounds About Hand. W. C. Cramp, New York.
127 Regurgitation of Fluid from Bladder to Kidney During Ureteral Catheterization. F. R. Hagner, Washington.
128 Technic of Suprapubic Prostatectomy. G. Kollischer, Chicago.
129 *Thymol-Alcohol as Disinfectant of Field of Operation. H. P. Kuhn, Kansas City, Mo.
130 Technic of Tubal Sterilization. L. W. Littig, Davenport, Iowa.

111. **Surgical Treatment of Gastro-Intestinal Stasis.**—It is Coffey's opinion that the large majority of patients with ptosis may be successfully treated and made perfectly comfortable by medical and dietary measures. Surgery should never be considered for the treatment of ptosis *per se*. Gastric or intestinal stasis not relieved by medical and dietary measures constitutes the only excuse for surgery in this class of cases. Given a case of right-sided ptosis with a moderately movable right kidney, painful cecum and appendix, not relieved by medical measures, the proper treatment is removal of the appendix and fixing the ascending colon through a right rectus incision, plus fattening. This will be sufficient to retain the kidney in position. If the right kidney is exceedingly movable, and the symptoms demand surgical relief, the appendix is removed and the colon and kidney both fixed through a posterior incision. A coexisting pericolic membrane may or may not be removed, according to the judgment of the operator at the time. Coffey usually has not removed it. An operation which fixes a floating kidney without fixing the colon at the same time is not a sound surgical procedure. A mobile cecum, with or without the membrane, in which the hepatic flexure remains fixed, is best treated by fixing the cecum and ascending colon to the parietal peritoneum. Mid-line ptosis of long standing not relieved by proper medical treatment is successfully treated by shortening the ligaments of the liver and stomach, suturing the omentum to the abdominal wall,

and expanding the upper abdomen. The results following this method of treating mid-line ptosis with stasis are fully as striking and complete as those produced by a gastro-enterostomy for mechanical obstruction at the pylorus. Sigmoid ptosis, producing severe stasis, can only be treated successfully by short-circuiting or excising. General visceroptosis, the pathognomonic sign of which is a floating left kidney, is not a surgical condition. Such patients may be materially benefited and made very comfortable by wise medical treatment combined with Martin's gymnastic treatment, but they can never be made normal individuals. The only hope for successful surgical treatment of general ptosis must be in the line of a prophylactic or orthopedic operation, which may be made possible in the future by improved diagnostic technic which will enable the doctor to determine the cases of movable colon in the feeble child before the ptosis habit has been formed, in which case the defect may be remedied by fusing the ascending colon to the parietal peritoneum, just as we now repair a congenital hernia or a cleft palate.

114. **Paget's Disease of Breast.**—Operative excision seems in McGrath's opinion to be the only rational and certain means of cure. He says the earlier such operation is undertaken, the better for the patient, as we have no means of knowing how long an interval of time may elapse before epithelioma or carcinoma may arise, or whether such condition may already exist in microscopic form.

116. **Uretero-appendiceal Anastomosis.**—This plan of utilizing the appendix vermiformis occurred to Kennedy during the course of a radical abdominal operation for carcinoma of the cervix uteri when it developed that a very extensive part of the right ureter was embedded in the carcinomatous infiltrated tissue. Subsequent work on the cadaver and dogs has demonstrated the feasibility of the technic. The great mobility of the appendix vermiformis and its mesentery favors the operative technic admirably, in that the usual range of the tip of the appendix extends into the pelvis, transversely or obliquely across the brim of the pelvis, to the region of the left ureter and upward for a considerable distance, depending on the length of the appendix and its mesentery in the individual. The right ureter may be planted with ease into either the tip or base of the appendix and the transplantation of the left ureter into the appendix, with or without transplantation of the right ureter, in those cases with appendices and mesoappendices of average or fair length, may be accomplished without the production of kinking or undue traction to endanger blood-supply or drainage. As the majority of cases necessitating the transplantation of the ureters will always arise in women, the fact of the superior blood-supply of the appendix in the female lessens the possibility of vascular disturbance, as well as reduces the chance of subsequent infection in the appendix itself. The method has not been tried on the human being.

119. **Treatment of Acute Anemia.**—Infusion of normal salt solution was found by David and Curtis to temporarily resuscitate in acute anemia, but its usefulness is limited to a period of a few hours. It is probable that salt solution alone is capable of saving only an extremely small percentage of patients who would otherwise die from loss of blood. Clinically, it may be used to advantage until preparation for transfusion of blood can be made. Present knowledge does not indicate that the use of either fresh or preserved defibrinated blood is to be recommended. Blood-transfusion is the treatment of choice in severe anemia. The transfused blood is capable of resuscitating from otherwise fatal hemorrhages and physiologically replaces the blood which has been lost.

120. **Effect of Animal Serum in Suppurative Processes.**—Gergö's experience leads him to believe that the treatment of abscesses of the soft parts with normal horse-serum in proper dosage will give the same results and will replace the use of the antiferment-bearing sera. The serum treatment is contraindicated: 1. In unusually large abscesses containing 100 c.c. or more of pus. These abscesses may occasionally heal rapidly but as a rule the prognosis is doubtful. In these cases it is questionable if time, labor or cost is saved and there is the additional danger that the large abscess with a poorly defined outline may rupture into a vital organ. 2. In deeply seated abscesses when the clinical symptoms do not always show the nearest point of outlet. Surgical intervention gives the desired results only when the origin of such abscesses is known. 3. In old or feeble patients with large abscesses, where it is necessary to quickly liberate and remove the pus. Gergö attempted the treatment of suppurative tubercular lymphadenitis, and of acute abscess following bone and joint tuberculosis. In view of the fact that by leaving a few c.c. of horse-serum in the cavity a marked leukocytosis is produced, Gergö irrigated the tuberculous abscesses with horse-serum and filled the cavity with a moderate amount of the sterile fluid. Over one-half of the patients were cured in weeks or months. In some of these cases, however, he was forced to resort to the iodoform-glycerin treatment. Whether this method will be applicable in deep suppurating processes as in meningitis, empyema, purulent peritonitis or suppurating joint cavities, only further experiments will determine. Gergö's experience in these cases has been too limited to give an opinion.

126. **New Retractor-Drain.**—The retractor-drain devised by Cramp is made of a strip of steel a quarter of an inch in width, nickel-plated, and bent into the shape of the Greek letter Upsilon, the ends of the legs projecting at right angles for ⅛ of an inch and curled over at the ends, the steel giving a spring to the drain and also permitting of its easy sterilization. The retractor-drain is made in three sizes (found to be the best working sizes for this particular variety of wound), ⅛ inch, ¼ inch, and ½ inch, based on the distance between the legs. After the pus is evacuated, the drain is inserted by pressing together the ends of the legs, introducing it into the wound and allowing the recoil of the steel to open the lips of the wound. It is removed in the same manner by pressing the legs together. There is no more pain incident to its use than with the other means of drainage, if the proper size drain is employed. There is little danger of displacement of the drain if ordinary precautions are taken, although a piece of silk may be advantageously tied to the bridge of the drain on either side and the ends incorporated in the dressings to obviate this possibility. The drain has been used in many cases with uniformly good results, the patients suffering no inconvenience from its employment, and Cramp has never seen any injury to tissues due to contact of the drain. After the drain is in place, copious amounts of gauze are lightly placed over it and kept moist by saline solution or a mild antiseptic to favor drainage, and this gauze is held in place by a loosely fitting bandage, the whole hand and arm being immobilized by a splint.

129. **Thymol-Alcohol as Disinfectant.**—The authors have modified Hoffmann's technic (5 per cent. solution of thymol in 60 per cent. alcohol) as follows: The patient receives a tub bath the night before the operation. The abdomen or parts are scrubbed with soap and water and dried with a towel. The patient is put to bed with no compress or application of any sort. One hour before the operation, the parts (scrotum and perineum excepted) are wiped over with a gauze sponge saturated with the solution, care being taken, following Hoffmann's instructions, not to use too moist a sponge or to allow the solution to remain in depressions. There occurs at this time a sensation of warmth accompanied with a mild degree of hyperemia. No patient has ever complained of burning or discomfort nor have they had the slightest degree of dermatitis following. After the application has dried, which occurs in a few moments, a large sterile gauze pad is applied and retained with a binder. The second application takes place on the operating table, the same precautions being followed as for the first. The operation begins five minutes after the last application. In emergency cases, they have used the solution immediately after the scrubbing or have used it without preliminary scrubbing with good results. They have found this method efficient in the preparation of the skin in any locality, over abrasions, compound fractures and infections; but it should not be used on the scrotum or the perineum, as it is here as likely to produce a dermatitis as is any alcoholic solution.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

October 5, II, No. 4649, pp. 927-996

1 Ventral Hernia, Traumatic or Incisional. W. H. Battle.
2 Acute Anterior Poliomyelitis. W. H. Trethowan.
3 *Relation of Gastric Secretion to Rheumatoid Arthritis. A. S. Woodwark and R. L. M. Wallis.
4 *Material and Technic of Wire Suture of Bone; Special Reference to Suture of Patella and Advantages of Iron Wire. E. W. H. Groves.
5 Case of Intracranial Tumor. H. Smith.

3. **Rheumatoid Arthritis.**—Evidence of the following definite changes were noted by Woodwark and Wallis in the composition of the gastric secretion in nine cases illustrative of rheumatoid arthritis: (a) A diminution in the amount of free hydrochloric acid, and also the active hydrochloric acid; (b) an excess of mineral chlorids pointing to a process of neutralization; and (c) a comparatively low ratio between the active hydrochloric acid and the mineral chlorids.

4. **Wire Suture of Bone.**—Groves favors iron wire in place of silver or aluminum bronze. He says it is stronger, more pliable, never breaks or kinks. He uses a tin plated wire of a diameter of .08 inch and a breaking strain of 483 pounds.

British Medical Journal, London

October 5, II, No. 2701, pp. 829-912

6 *Differential Diagnosis of Surgical Dyspepsias. A. J. Walton.
7 *Congenital Deformity of Forearm and Its Operative Treatment. H. G. W. Dawson.
8 Influence of Meteorologic Conditions on Development of Trypanosoma Rhodesiense in Glossina Morsitans. A. Kinghorn and W. York.
9 Etiology and Treatment of Miner's Nystagmus. F. J. Brone and J. R. Mackenzie.
10 Aneurysm of Anterior Cusp of Mitral Valve in Staphylococcal Endocarditis. W. Calwell.
11 Case of Ulcerative Endocarditis. A. Houlgrave.
12 *Case of Abnormal Pulse Rhythm. W. Johnstone.
13 Surgical Treatment of Rectal Cancer. H. Cripps.
14 Diagnosis and Treatment of Urinary Tuberculosis. E. H. Fenwick.
15 *Transarticular Method of Operation for Certain Difficult Fractures Near Knee and Elbow. W. S. Handley.
16 *Excision of Pile Area by Simple and Bloodless Method. A. Don.
17 Shape of Kidney in Certain Ureteral Obstructions. R. A. Bickerateth.
18 Excision of Gastric Ulcer. J. F. Dobson.
19 Aneurysm of Second and Third Parts of Left Subclavian Artery in a Woman. G. P. Newbolt.
20 One Thousand Cases of Total Enucleation of Prostate for Radical Cure of Enlargement of That Organ. P. J. Freyer
21 Acute Appendicitis; Plea for Early Operation. H. J. Paterson.
22 Laceration of Large Arteries. G. H. Edington.
23 Surgery of Sacro-Iliac Joint. W. I. de C. Wheeler.
24 Lighting of Operation Tables. F. W. Collinson.

6. **Differential Diagnosis of Surgical Dyspepsias.**—The indications for operative treatment are regarded by Walton to be as follows: 1. Any case in which the symptoms are such that a diagnosis can be made with tolerable certainty. 2. Any case commencing after the age of 35, which is not markedly relieved by a few weeks' adequate medical treatment. 3. Any case in which symptoms have recurred after previous attacks relieved by medical treatment, especially if the symptoms have changed from those typical of a chronic gastric ulcer. 4. Any case in which the stomach shows definite evidence of distention, whether the symptoms are those of ulcer or carcinoma. 5. Any case in which a tumor is present suggesting any of the above conditions. 6. Any case with repeated hemorrhage. Walton lays special stress on the fact that if rapid progress is not made with adequate medical treatment operation should early be resorted to. With our present knowledge it affords the only certain method of diagnosis and cure, and if undertaken early many of the more hopeless complications can be entirely prevented. Also in cases of this nature no operation must be considered complete unless the stomach, duodenum, gall-bladder and appendix have all been examined.

7. **Congenital Deformity of Forearm.**—The deformity in this case consisted of fixation of the forearms in a position of complete pronation with some slight bowing of the radius in its lower third, the convexity of the bow being backward and outward (presuming the limb to be in the correct anatomic position, palms to the front and thumbs out). The condition affected both arms equally, causing very great limitation to the usefulness of the arms and hands. The carpal bones were unusually movable one on the other, and the ligamentous attachments uniting them were very lax, this allowing of a certain amount of rotation of the hand on the forearm, much more than is normally the case, and doubtless due to constant efforts at supination acting on the only part of the limb capable of any rotatory movement. The deformity was not very noticeable when anything was taken in the hands, and no effort at supination was attempted; but if an effort was made to hold anything with the palm turned uppermost, a most awkward exposure of the deformity results, the elbow being pressed firmly to the side, and the hand rotated into an almost spiral attitude. A younger brother was also the subject of the same deformity, both right and left arms being perfectly fixed in the position of pronation, with even more marked bowing of the radius and more laxity of the intercarpal ligaments, and their maternal grandmother also suffered from the same condition, although it was not supposed to be so extreme. The fixation was due to bony union between the radius and ulna extending from the elbow downward along the shafts for about 2½ inches; the two bones were quite free below at the interior radio-ulnar articulation, the space between them being seen quite distinctly on the fluorescent screen, though the bones were very close together and the joint cavity very small. The head of the radius, instead of being the normal mushroom shape, was rounded off and laterally fused with the ulna.

12. **Abdominal Pulse Rhythm.**—A tracing of the pulse of Johnstone's patient taken with Dudgeon's sphygmograph showed a pulse partaking of the nature of a pulsus trigeminus but exhibiting a further abnormality. A long pause occurred after the three systoles and another full systole then occurred, followed by another fairly long pause, this in turn being succeeded by the trigeminal condition again.

15. **Operation for Difficult Fractures Near Knee and Elbow.**—The fractures to which Handley refers, are those of the lower end of the humerus and of the lower end of the femur, and more especially fractures in these situations involving the neighboring joints. The type of such a fracture is the T-shaped fracture described in the text-books. After such an accident, even when the injury is treated by an open operation, the shape of the articular surface of the broken bone is frequently so altered and deformed that the movements of the joint are greatly impaired. In the case of the elbow, despite early passive movements of the joint, a bond of fibrous tissue forms between the intra-articular portion of the line of fracture through the humerus and the contiguous surface of the ulna. Attempts to break down this adhesion may fail or may succeed only in refracturing the humerus, and the joint has to be excised. Handley believes that the present state of surgery justifies a bolder means of obtaining free access to the fracture and to the injured articular surface, so that its fragments can be accurately and precisely adjusted with the aid of vision. The only means available for securing such inspection is the free opening up of the joint into which the fractured bone enters. Such a method of exposing the fracture he distinguishes as transarticular. It consists in laying the joints wide open.

16. **Excision of Pile Area.**—Don's operation consists practically in removing the whole lower 1½-in. of the mucosa with the varicose, or communicating, venous radicles underneath it. This assures the removal of all the dilated veins, and of those that might later become dilated, if the cause continued to operate.

Edinburgh Medical Journal

October, IX, No. 4, pp. 289-384

25 Presence and Prevalence of Tuberculosis in Childhood. R. W. Philip.
26 Dynamic Diagnosis of Pulse. T. F. Christen.
27 Polyorromenitis or Multiple Serositis. E. Matthew.
28 Treatment of Simple Fractures by Massage and Movement. P. Watson.
29 Local Incidence of Cancer in Nairnshire. C. E. Green.
30 Extraction of Cataract in Capsule. F. F. S. Smith.

Quarterly Journal of Medicine, London

July, V, No. 20, pp. 409-524

31 Congenital Atresia of Bile Passages. L. S. Milne.
32 Acidosis Index: Clinical Measure of Quantity of Acetone Bodies Excreted in Urine. T. S. Hart.
33 Epidemic of Gangrenous Dermatitis. F. C. Purser.

34 *Origin of Chronic Ulcer of Stomach in Acute Variety of Disease. C. Bolton.
35 *Research on Combined Mitral and Aortic Disease of Rheumatic Origin; Rheumatic Malignant Endocarditis. F. J. Poynton and A. Paine.
36 *Case of Thomsen's Disease. L. Findlay.
37 Ochronosis Associated with Carboluria. A. P. Beddard and C. M. Plumtre.
38 *Sensitized Vaccine of Besredka. M. H. Gordon.

34. Origin of Chronic Ulcer of Stomach.—The main object of this paper is to show how, by the extension of an acute ulcer and the secondary inflammatory thickening which affects the same, and as a necessary consequence of the unhealed condition of the ulcer, a chronic ulcer arises. The funnel shape of an ulcer is not due to the fact that it arises as a result of vascular occlusion; it is merely the result of the mode of spread of the ulcer. The spread occurs in two directions, laterally and in the depth. If lateral extension has occurred rapidly the funnel is a very shallow one, and this shape disappears when the muscular coat is destroyed, the ulcer assuming a flattened form. If extension has occurred chiefly in the depth the funnel shape is well marked and perforation soon occurs, unless there is a well-marked inflammatory reaction and thickening. Digestion of the sides of the ulcer undermines the edges, so that the flat variety acquires a raised and overhanging edge, and the funnel-shaped ulcer is converted into a globular or other irregular shaped cavity. Chronic ulcer probably always arises in this manner, because, so far as we know at present, every initial lesion leading to ulcer is essentially acute and produces in the first instance acute ulcer. According to the nature of this initial lesion there are several different types of acute ulcer. They are all, under suitable circumstances very little understood at present, able to spread and become chronic, but there is undoubtedly one particular type of acute ulcer which most frequently undergoes those changes. Acute ulcer, whatever its origin, tends to heal rapidly and completely within a few weeks, and perhaps there is one type which most commonly does this. Occasionally, without showing any tendency to spread, an acute ulcer may be delayed or arrested in its healing, when thickening occurs and the condition may become chronic. One sex is more liable to be affected by a particular type of acute ulcer than the other. The multiplicity or the reverse of the ulcers, the position in the stomach occupied by them, the sex and age of the patient most affected, the recurrence in the same individual, all vary probably according to the type of acute ulcer. For instance, an ulcer due to an acute infective condition is commonly multiple, more often affects the fundus, may occur at any age, does not recur in the same individual, and usually does not spread or become chronic if the patient survives, although there is evidence to show that it may do so. These are the general principles from which the detailed pathology of chronic ulcer must be worked out, and this can only be done by the systematic classification and study of the various forms of acute ulcer.

35. Mitral and Aortic Disease of Rheumatic Origin.—The authors regard rheumatism as a peculiar streptococcal infection. The strong hereditary element in the disease supports the view that the exciting cause possesses some peculiarity by which in these particular tissues it can form the special poisons that make it so definite an affection. They do not believe that rheumatic endocarditis, whatever the infection may be, is always benign and requires an added infection to produce a progressive lesion. The rheumatic form is no exception to the rule that it is a disease which is almost invariably fatal when the signs are well established. They are doubtful of the efficacy of serum or vaccine at present in use, though they would neither dispute the records of such recoveries while such treatment was being employed, nor the advisability of trying any method that holds out the least prospect of success. It is the prophylaxis that is encouraged by their investigations. There must clearly be some peculiar factors at work to produce the progressive endocarditis, and one sometimes finds suggestive evidence in support of this. The cardiac rheumatism may have been neglected, the patient ill-fed, the surroundings unhealthy. Anemia, a prominent feature of some rheumatic attacks, may have persisted, and this in their opinion favors the malignant process. The danger of large unhealthy tonsils in the rheumatic is well established, and this danger can be cautiously dealth with. Above all, they believe that more clinical study is necessary of the course and history of acute rheumatic endocarditis. They believe that a smouldering activity of the rheumatic process is more common than is suspected, and very possibly we may not yet possess the necessary clinical accuracy for ascertaining the limits of this activity. This seems the more likely when it is borne in mind that even a gross and progressive lesion may elude observation until the end is close at hand. There is more hope that we may protect a patient against the development of a known danger than against a mysterious secondary infection which prefers scarred valve tissues and which appears usually without any particular cause or reason. The disappearance of the terms "malignant," "infective," or "pernicious" as applied to endocarditis they regard as a great advantage, and the substitution of the term "active" will answer every purpose, for the physician can judge of the degree of this activity by the well-known signs that may arise. "Active tuberculosis" expresses sufficiently a progressive pulmonary lesion, and we need no term "malignant tuberculosis" to bring home to us the fact that the activity is getting beyond all control. Why then use such a term as "malignant endocarditis," or perpetuate such an unproven conception as a non-infective endocarditis, by the use of the adjective "infective?"

36. Case of Thomsen's Disease.—In Findlay's opinion Thomsen's disease is not one primarily or wholly of muscle, but that in all probability the nervous system plays a not insignificant part in the etiology. It has been shown that in voluntary contraction of the abdominal muscles, as in bending, the myotonia develops, whereas during involuntary or reflex action, e. g., defecation, this peculiar contraction of the abdominal muscles is absent. The same difference is seen in the quadriceps femoris and latissimus dorsi contracting voluntarily and involuntarily. Direct stimulation or electrical stimulation of the muscle brings about myotonia, while contraction of the muscle reflexly, or at least while eliciting the knee-jerk, is normal in character. Moreover, the fact that the condition gradually disappears on a repetition of the voluntary movements, and does not do so on a repetition of the direct or electrical stimulation, negatives the idea of some primary muscle change, as do also the fibrillar tremors. And further, the creatin and creatinin metabolism shows that we are not dealing with a degenerate muscle, but with an extra efficient muscle, in short, a hypertrophied muscle, not improperly engendered by excessive work to overcome the spasm. And lastly, the influence of the mental state, further points to the disease being dominated, at least to a certain extent, by the nervous system.

38. Sensitized Vaccine of Besredka.—From the experimental evidence, Gordon says, it would seem that the results obtained on animals with the method of Besredka are very encouraging. Besredka regards the main action of sensitized vaccine as being to activate and accelerate the work of the leukocytes. Whatever may be the correct explanation, there can be no doubt that from the laboratory point of view the method forms an advance on previous methods of producing immunity. While its value is undoubtedly greatest in a preventive sense, it appears to have some curative action in animals, a point which suggests that perhaps the method of treatment by sensitized vaccine is worthy of a more extensive trial clinically.

Glasgow Medical Journal

October, LXXVIII, No. 4, pp. 241-319

39 *Cancer of Throat Treated by Radium. J. S. McKendrick and J. H. Teacher.
40 Articular and Muscular Rheumatism. J. Craig.
41 Diagnosis of Chronic Gonococcus Infections. D. Watson.
42 Case of Stricture of Esophagus. J. Morton.

39. Cancer of Throat Treated by Radium.—The radium in this case had destroyed all the main pharyngeal growth, and healing of the mucous membrane took place over the whole area occupied by the tumor within two months. Three months later a small portion of tumor had reasserted itself in the soft palate, and, after death, tumor tissue was also found in the neck about the lower border of the field of operations. Death was due to septic infection of the throat which produced sloughing of the large arteries in the neighborhood.

Annales de l'Institut Pasteur, Paris

September, XXVI, No. 9, pp. 657-736

43 Coagulation of the Blood and Genesis of Thrombin. J. Bordet and L. Delange. To be continued.
44 Rat Leprosy. (Lepra murium.) E. Marchoux and F. Sorel.
45 Epizootic Lymphangitis in Algeria. J. Bridré, L. Nègre and G. Trouette.
46 Dog Rabies in Western Africa. (Sur l'existence de la rage canine dans Haut-Sénégal et le Niger.) G. Bouffard.
47 Properties of Desiccated Rabies Virus. D. L. Harris (St. Louis).

Archives des Maladies du Cœur, etc., Paris

September, V, No. 9, pp. 561-624

48 Treatment of Syphilitic Aortitis and Aneurysm of the Aorta. H. Vaquez and C. Laubry.
49 Graphic Registration of Pulsation in the Esophagus. (De l'enregistrement du pouls œsophagien.) E. Cottin.

Journal de Médecine de Bordeaux

September 15, XLII, No. 37, pp. 581-596

50 Technic and Indications for Tonsillectomy. (Hypertrophie des amygdales palatines.) Brindel.

September 22, No. 38, pp. 597-612

51 Deformities from Constriction of Fetus by Cord. (Circulaires du cordon: Main bote. Absence congénitale du radius.) C. Boisse.
52 Colonic Pseudogastralgia. J. Matignon.
53 Experimental Feeding with Polished and Unpolished Rice Shows Complex Nature of Effects of Elements of Foods and Drugs. (Curieux résultats de l'alimentation par le riz complet et incomplet.) P. Carles.

Lyon Chirurgical, Lyons

October, VIII, No. 4, pp. 369-460

54 *Technic, Indications and Results of Gastrostomy. L. Bérard and H. Alamartine.
55 *Tumors in Bed of Kidney. (Tumeurs paranéphrétiques.) M. Durand and H. Verrier.
56 *Radiotherapy of Nevus. (Traitement radiothérapique des angiomes.) F. Barjon and P. Japiot.
57 *Intraperitoneal Injection of Oxygen in Treatment of Acute Diffuse Peritonitis. L. Arnaud.
58 Possible Efficiency of Operations on Posterior Spinal Roots for Zona, Mal Perforant or Hyperchlorhydria. R. Leriche.

54. **Gastrostomy.**—Bérard and Alamartine describe the technic and the advantages of gastrostomy in treatment of severe cicatricial stenosis of the esophagus. It permits retrograde dilatation, and in their experience a complete cure was realized in eight cases; four other patients required esophagostomy besides, and in two others the stenosis was congenital—these fifteen patients formed over 50 per cent. of the twenty-four cases of stenosis of the esophagus which they have encountered. The fatalities after gastrostomy are generally due to shock, the intoxication from the anesthetic proving the last straw for these debilitated patients.

55. **Pararenal Tumors.**—In the case described, the first symptoms had been noticed two years before the operation. Daily attacks of pain radiating through the abdomen were most pronounced in the right flank; they were without any connection with the meals, but generally terminated with vomiting. The pains were ascribed to gall-stones and rest in bed abolished them for a time. A large tumor was then palpated in the right side and it was removed with the adherent kidney but the patient succumbed the next day. Chamoff in 1911 found records of seventy-five cases of a solid and thirty of cystic pararenal tumors. The female sex is predominantly affected, and at an earlier age than with cancer. The symptoms are similar to those of a large cancer in the kidney except that the symptoms from compression are more pronounced. Chamoff found thirty-two cases in which an operation was followed by recovery, while sixteen patients died and the tumor recurred in six out of a total of fifty-four cases in which operative treatment was applied. The kidney generally has to be removed with the growth, but nephrectomy was done in some cases on the assumption that the growth was in the kidney, which was a mistake and the organ might have been saved.

56. **Radiotherapy of Nevus.**—Barjon and Japiot have now a record of seventy cases of vascular nevi in which they have applied the Roentgen rays or radium treatment. Their experience is decidedly unfavorable to these measures in treatment of pigmented nevus; prolonged irritation favors malignant degeneration in the pigmented forms, and surgical excision is better for these cases. The flat, wine-colored nevus proved the hardest to cure by any measures, possibly because the children were older. Radium has the greatest effect on these flat nevi, but even this frequently fails. In all forms the younger the patient the better the results. In three adults none of the methods applied gave any results. The best outcome was obtained with prominent vascular nevus, the angioma form. This never failed to yield to radiotherapy. In their sixty-seven cases of this kind, the angioma was on the scalp in four, the fontanel in two, brow in eleven, lids or orbit in eight, cheeks in twelve, limbs in five and trunk in seven, all in children under 3½ years old. In every case the tumor not only disappeared but the organ deformed by it resumed its normal shape and place. The dose was never more than 5 H, using the 5 or 6 B rays and repeating the sittings every three or four weeks. The rays are not filtered at first. Prudence and patience are the main points. Radium and the Roentgen rays seem to give equally good results in this form of nevus.

57. **Treatment of Peritonitis with Oxygen.**—Arnaud has been applying Thiriar's method of flushing the abdominal cavity with oxygen as described in THE JOURNAL, March 11, 1911, p. 781. Arnaud did not have conveniences for a continuous current of oxygen, so he merely injected a certain amount at intervals. Even with this the results were excellent, not only on the blood but also in prevention of adhesions. It induces local hyperemia and attracts leukocytes, while it favors peristalsis. The benefit from the measure was particularly evident in the three cases reported. The abdomen must be left open for the tubes to admit and carry off the oxygen; consequently the method should be reserved for the severer cases in which the abdomen is not to be sutured at once.

Lyon Médical, Lyons

September 22, XLIV, No. 38, pp. 461-504

59 *Local Injection of Alcohol or an Anesthetic Effectual in Treatment of Dysphagia with Laryngeal Tuberculosis. M. Lannois and R. Alexandre. Commenced in No. 37.

59. **Anesthesia of the Upper Larynx for Painful Dysphagia.**—Alexandre describes three cases of extremely painful involvement of the larynx in tuberculosis. He injected 0.5 c.c. of 1 per cent. stovain on each side of the larynx with complete relief of the pain, lasting in one case over two months.

Presse Médicale, Paris

September 18, XX, No. 76, pp. 765-772

60 Goiter an Inflammatory Reaction. (Quelle place occupent les goitres dans la pathologie du corps thyroïde?) G. Roussy.
61 Direct Injection of Medicated Oil Into Bronchi or Lungs. G. Guisez and G. Stodel.

September 21, No. 77, pp. 773-784

62 The Capillary Network of the Central Pia Mater. F. Baudouin and Mme. J. Tixier.
63 Electrolytic Depilation. W. Dubreuilh.
64 Latent Syphilis in Course of Chronic Cirrhosis and Nephritis. M. Letulle and A. Bergeron.
65 Desiccated Milk. (Le lait sec ou lait en poudre.) G. Schreiber.

September 25, No. 78, pp. 785-792

66 Hemorrhagic Tuberculous Meningitis; Two Cases. L. Rénon, E. Géraudel and C. Richet, Jr.
67 *Simplified Calculation for Urea Index in Kidney Disease. (Le coefficient uréo-sécrétoire des reins.) H. Balavoine and R. Onfray.
68 Nitrogen Metabolism in the Tuberculous. (Les échanges azotés chez les phtisiques.) H. Labbé and G. Vitry.
69 Epidural Injections to Mitigate Labor Pains; Two Cases. M. de Kervily.

September 28, No. 79, pp. 793-800

70 *Climacteric Hemorrhage. (Métrorragies de la ménopause.) E. Forgue and G. Massabuau.
71 *Hyperemic Treatment After Trauma of Joints. (L'hyperhémie active dans les traumatismes articulaires et peri-articulaires.) R. Legras.

October 2, No. 80, pp. 801-808

72 Putrefaction in Intestine with Absence of Bile. (Le paradoxe de l'acholie intestinale.) H. Roger.
73 Artificial Displacement of Testicle to Avoid Military Service. (L'ectopie artificielle du testicule dans la peau de la région inguinale.) M. Guibé.

67. **Urea Index in Kidney Disease.**—Ambard's formula for the urea index was described in THE JOURNAL, Sept. 7, 1912, p. 818.

70. **Climacteric Hemorrhage.**—Forgue and Massabuau review the various theories that have been advanced to explain the hemorrhages of puberty and the menopause. The true explana-

tion is to be sought, they say, in exaggerated ovarian functioning. The ovaries frequently show a tendency to microscopic or visible cyst formation with hyperproduction of interstitial cells and hypertrophy of the gland. These changes are almost constant with fibromas in the uterus and climacteric hemorrhages; the hypertrophied gland produces an excess of its hormone and this in turn keeps up the hemorrhagic tendency or an influence predisposing to new growths.

71. **Hyperemic Treatment After Trauma of a Joint.**—Legras expatiates on the various advantages of superheated air as a routine measure in treatment of a simple injury of a joint. It not only soothes the pain, promotes absorption of effusions and blood and repair generally, but it places the parts in the best condition to repel infection.

Revue de Gynécologie, Paris

July, XIX, No. 1, pp. 1-96

74 *Surgical Treatment of Stenosis of Uterine Cervix; 191 Cases. (Les résultats de la stomatoplastie par évidement commissural du col—Pozzi.) A. Pineau.
75 Inguinal Hernia of the Stomach. E. Chambard.

74. **Surgical Treatment of Stenosis of Uterine Cervix.**—Pineau emphasizes the advantages of Pozzi's eminently conservative commissural resection of the cervix in treatment of stenosis. The mucosa both inside and out is respected and the wound heals by primary intention so that there is no danger of deformity from cicatricial retraction. He aims to dilate the external os and cervical passage and keep it open and supple. Pozzi has applied the method in 107 cases. Omitting those lost to sight, Pineau states that over 46 per cent. of eighty women previously sterile have had one or more pregnancies since. Barnsby and Spencer have also extensively applied this technic, so that there is now a total of 191 operations of the kind on record. Pozzi has performed the operation on account of dysmenorrhea in seventy-nine cases, and 86 per cent. of the women were permanently cured. In the forty-three cases of metritis, a cure was realized in over 73 per cent. These experiences over twenty years testify to the value of the method. The details of 129 of the cases are tabulated. The stenosis of the cervix requiring operative treatment is generally accompanied by kinking of the cervix and the lumen is usually plugged with mucus. Dysmenorrhea is not inevitable but it often accompanies the stenosis, and conditions favor localization of gonorrheal and other infections. The results of the operation never prevent delivery later although it may be somewhat retarded. When the uterus is imperfectly developed this operation often starts it to normal development, but this cannot be anticipated with an actual infantile uterus and consequently this condition contra-indicates this operation. (It was mentioned in THE JOURNAL, May 15, 1909, and described Jan. 1, 1910, p. 84.)

Revue de Médecine, Paris

September, XXXII, No. 9, pp. 673-760

76 Hemorrhagic Syndromes Early and Late in Typhoid. A. Robin, N. Flessinger and M. P. Weil.
77 Septicemia with Friedländer Pneumobacillus. M. Carrieu and J. Anglada.
78 Conflicting Findings with Various Clinical Methods in Vogue for Examination of Effusions and Exudates. W. Janowski.
79 Acute Endocarditis in Typhoid. P. Savy and C. Gardère.
80 *Anaphylaxis Manifested in Neuritis. (Accidents d'anaphylaxie sérique à forme anormale.) P. Thaon.

80. **Nerve Manifestations of Anaphylaxis.**—Thaon reports the case of a man who was injured in his left hand and given an injection of 10 c.c. of tetanus antitoxin under the skin of the abdomen. No local or general reaction followed. Four years later he fell from a bicycle and injured his right hand. He was given another injection of 10 c.c. of tetanus antitoxin. The wound in the hand healed rapidly but around the site of the injection on the abdomen a large red edematous area developed, hot, painless, itching. This disappeared in four or five days. About nine days after the injection the patient suddenly felt an intolerable itching and patches of urticaria appeared all over his body and his face. He became very weak and fainted. The pulse was imperceptible, the skin pale and clammy. For twenty-four hours the urticarial attacks and the heart attacks alternated. On the second day he vomited and had uncontrollable diarrhea. The secretion of urine almost entirely stopped, and when it recommenced the third day there was considerable albuminuria. At the end of the third day he began to improve and in a week was apparently well. But about two weeks later he noticed great weakness in certain movements of his right arm and examination showed a muscular paralysis resulting from a neuritis of branches of the brachial plexus, evidently a result of the serum injection. Richet, Achard and others have demonstrated the accumulation of anaphylactic substance in the nervous centers, and Richet thinks that the duration of anaphylaxis may be almost unlimited.

Revue Médicale de la Suisse Romande, Geneva

August, XXXII, No. 8, pp. 565-612

81 Autoserotherapy of Effusion Consecutive to Artificial or Spontaneous Pneumothorax. R. Burnand.
82 Enlargement of Chest Measure of the Tuberculous Under Influence of Altitude. Técon.
83 Scarlet Fever at Geneva. P. Gautier.

Beiträge zur Klinik der Tuberkulose, Würzburg

XXIV, No. 2, pp. 145-281. Last indexed Sept. 21, p. 973

84 *Roentgen-Ray Examination of Pulmonary Tuberculosis. H. Schut.
85 Modern Methods of Sputum Examination. (Vereichungswert einiger neuerer Methoden der Sputumuntersuchung auf Tuberkelbazillen des Ziehlschen und Muchschen Typus.) R. C. Matson (Portland, Ore.).
86 *The Fever in Tuberculosis. (Moderne Fieberforschung und Tuberkulose-Fieber.) F. Wolff.
87 *Tuberculosis of the Spleen. (Milztuberkulose.) A. Lorey.
88 Orthostatic Albuminuria in the Tuberculous. V. Hinze and M. Sorin.
89 Methylene Blue-Copper Salt Treatment of Tuberculosis. H. Selter. Commenced in No. 1.

84. **Roentgen-Ray Examination of Tuberculous Lungs.**—Schut's article fills fifty pages and is accompanied by twenty-seven skiagrams on heavy paper. He emphasizes that the interpretation of the findings is a more difficult matter than to get a good radiograph and that the stereoscopic method has a number of advantages. He gives the clinical details of the cases. Some of the skiagrams are of patients with pneumonia, pleural effusion or emphysema, and he points out the differential points in the "Roentgen photo" as he calls the skiagram. (The skiagrams are on the same scale as in the "Roentgen-Atlas" with sixty-one plates which formed a large supplementary number of the *Beiträge* in 1910.)

86. **The Fever in Tuberculosis.**—Wolff reiterates that a rise in temperature is not necessarily fever, and that the vasomotor instability in fever is apparently the result not of the fever but of the cause inducing the fever. He warns that an intercurrent infection or even a fall may send up the temperature in the tuberculous; sometimes a patient may not be thriving until a period of high temperature intervenes, after which conditions take a decided turn for the better. The high temperature is by no means the most important symptom of the fever in the tuberculous. He insists that the ordinary cheap themometer is not reliable and that taking the temperature in the mouth, the patient not reclining, has no scientific value. Commenting on the taking-the-temperature mania which prevails to such an extent among the public, he relates the case of a woman who had staid in bed for months, although perfectly well, because she had been told years before during treatment of an apical process that whenever her temperature was 37.5 C. and over she must stay in bed. It was difficult to convince her that there was no reason for her staying in bed, but she has been entirely well during the eight years since. Wolff contends that only the rectal temperature is decisive, and that the temperature should be taken in the rectum occasionally at least. Regular weighing of the tuberculous is more instructive than the temperature curve in many cases; this reveals the other elements of the fever, but here again strictly accurate scales and skill in their use are indispensable to determine the actual importance of the fever. Only a steady decline in febrile patients free from a tendency to doughy fat is serious, indicating severe irritation of the organism. Transient fluctuations in weight are comparatively unimportant. The question is to determine in which cases the high temperature is a sign or accompaniment of severe disturbances in the metabolic processes. When the patient is free from this and from weakness of the heart then the

fever is not malignant, and the patients are better off up and about than in bed, notwithstanding their high temperature, as he shows by a number of case histories cited. He believes in exercise and work, graduated to the individual case, as of supreme importance in tuberculosis, even in some of the febrile cases, selecting them by application of modern views as to the true nature of fever. He hints in conclusion that possibly fever is always present in every case of tuberculosis that is not totally stationary.

87. **Tuberculosis of the Spleen.**—There are a few cases on record similar to the one reported by Lorey in which the spleen seemed to be the primary focus of tuberculosis. The benefit from splenectomy was so great that the measure is justified even when not quite certain as to whether this is the sole focus. The operation may be difficult on account of adhesions, and there is danger of postoperative gastro-intestinal hemorrhage and of thrombosis developing at the point where the splenic vein is ligated. In the case described the tuberculous nature of the spleen affection was an operative surprise. The course of the case since indicates that the liver is probably also involved. If tuberculosis had been suspected, Lorey would have given the patient a course of tuberculin preliminary to the splenectomy; there is a chance that this might benefit a tuberculous spleen as it has been known to benefit tuberculosis of the kidney. Only when all the general measures for tuberculosis have failed should splenectomy be considered.

Berliner klinische Wochenschrift

September 16, XLIX, No. 38, pp. 1781-1828

90 Elimination of Uric Acid with Hypophysis Disease. (Harnsäureausscheidung bei Erkrankungen der Hypophyse.) W. Falta and J. Nowaczynski.
91 Determination of Sugar in the Blood. (Zur Methodik der Blutzuckerbestimmung.) H. Schirokauer.
92 *Diphtheria. (Zur Epidemiologie und Bekämpfung der Diphtherie.) v. Drigalski.
93 Familial Hemolytic Jaundice. (Hämolytischer Icterus.) M. Mosse.
94 *Serous Meningitis in Children. (Meningitis serosa und verwandte Zustände im Kindesalter.) K. Blühdorn.
95 Dietetics in Kidney Disease. (Die gegenwärtige Diätetik der Nierenkranken.) A. Kakowski.
96 Tuberculosis Statistics. J. Ritter.
97 The Heel Bone. (Architektur des Calcaneus unter normalen und pathologischen Verhältnissen.) H. Reiner.

September 23, No. 39, pp. 1829-1872

98 Fate of Carbohydrates. (Umwandlungen und Zerfall der Kohlehydrate.) A. Jolles.
99 *Tuberculosis of the Kidneys. (Zur Tuberkulose der Nieren.) M. Waldschmidt.
100 *Postoperative Peptic Ulcer. (Perforation des postoperativen Ulcus jejuni pepticum ins Colon transversum.) A. W. Pinner.
101 *Insignificant Remote Effects of Removal of Normal Spleen Adherent to Tumor. (Exstirpation der normalen Milz.) Y. Noguchi.
102 *Hyperthyroidism with Tuberculosis. (Basedow-Symptome bei Lungentuberkulose.) H. v. Brandenstein.
103 Serodiagnosis of Tuberculosis. V. Zweig.
104 Polyps in Rectum. (Benigne und maligne Polypen der Flexura sigmoidea und der Ampulla recti.) A. Albu.
105 Dietetic Treatment of Pyelitis in Infants. (Zur "diätetischen" Behandlung der eiterigen Erkrankungen der Harnwege im Säuglingsalter.) H. Nothmann.
106 *Sleep at Will by Electricity. (Neuer dosierbare Wechselstrom —elektrischer Schlaf.) F. Nagelschmidt.

92. **Diphtheria.**—Drigalski relates that at Halle the number of cases of diphtheria has shown a gradual decline in the last five years, from 1302 to 578 cases. Other infectious diseases have rather increased in frequency. In prevention of the spread of diphtheria, great stress is laid on convalescents still harboring the bacilli and they are kept under a certain supervision, and are not allowed to return to school or have anything to do with the traffic in foodstuffs. After recovery each one is examined at least once, school children several times. The final disinfection of the premises follows the certification that no diphtheria bacilli are to be found in the patient's throat. It does little good to give the final disinfection while the patient is still scattering the bacilli. On reexamination of 2,812 children who had had diphtheria, the bacilli were found in 312 on the second examination; in 100, on the third; in seven, the sixth; in one each up to the thirteenth, and in two on the fifteenth examination. Only six of the total 2,812 thus had to be kept out of school for four weeks or longer. Bacilli were found in the healthy persons in the environment in 25 per cent. of the 986 examined, but the germs seem to die off quickly in the healthy throat as none was found in 63.2 per cent. a week later, and all but 6 per cent. were free from them after two and a half weeks. Drigalski states that he has no legal authority to enforce these measures, but the public has complied with them without complaint.

94. **Serous Meningitis.**—Blühdorn has encountered ten cases of serous meningitis in children during the last six months, as he describes in detail. The effusion was in the subarachnoid space in all and the cerebrospinal fluid was limpid and sterile but under high pressure. Lumbar puncture gave great relief in some cases but not in all, and the meningitis passed into a purulent phase in several of the cases. The serous meningitis developed in the course of pneumonia in three, in pertussis in two, while in the five other cases the meningitis seemed the only affection. Only one of the pneumonia children recovered, a boy of 9; one pertussis infant has recovered but seems to be imbecile, and three of the five children with simple serous meningitis have not developed mentally normally since; two are infants, one a boy over 5. The two who recovered were 6 and 35 months old. The whole picture resembled very much that of epidemic cerebrospinal meningitis, especially the consecutive imbecility.

99. **Tuberculosis of the Kidneys.**—Waldschmidt reports the spontaneous healing of a tuberculous process in one kidney in a woman of 46. The case resembles that published by Ekehorn in a woman of 29. At present Waldschmidt's patient seems to be entirely cured of the tuberculous bladder and left kidney affection which had been positively diagnosed nine years before and had caused disturbances for thirteen years. The patient refused an operation and under conservative measures and several courses of treatment at the Wildungen spa the symptoms gradually disappeared. The kidney involved showed no signs of functioning on recent cystoscopic examination, but the bladder was healthy and the patient in fine general condition. Early nephrectomy, however, would have spared her thirteen years of suffering. He has been looking over the necropsy records since 1900 at the hospital (Hamburg-Eppendorff) and found chronic local tuberculosis of the kidneys recorded in 0.049 per cent. of the 40,621 cadavers, but in only one cadaver was there no other tuberculous focus to be found. In eighty-six of the total 119 positive cases both kidneys were tuberculous. No case of spontaneous healing was discovered. He compares these findings with those of 100 operative cases; in only 44 per cent. of these was another focus known, but in several that came to necropsy later, traces of tuberculosis elsewhere were discovered in all but one patient. Necropsy confirmed in nine cases the diagnosis of unilateral renal tuberculosis. In other cases the tuberculous process in one kidney was in an advanced stage but only incipient in the other. He regards this with other evidence as excluding ascending infection of the second kidney from the bladder. But the danger of involvement of the second kidney —by whatever mode it may occur—must be regarded as imminent although there may be years of a deceptive lull. The entire material teaches anew that prompt nephrectomy is the true and the only effectual means to treat tuberculosis of one kidney. When this is impossible for any reason, courses of mineral waters may prove useful.

100. **Postoperative Peptic Ulcer.**—In the case reported by Pinner a gastric ulcer persisted after gastro-enterostomy and numerous peptic ulcers developed in the jejunum. He urges the cooperation of surgeons and internists to ward off such complications after a gastro-enterostomy, possibly by a diet promoting secretion of bile and pancreatic juice, by refraining from coffee, alcohol and tobacco, or all combined.

101. **Effects of Removal of Normal Spleen.**—Noguchi had to remove a normal spleen on account of adhesions to a lipoma, and has kept clinical control since of the man of 42. It took five or six years for the blood-picture to be normal again, as at first the polynuclear neutrophils dropped off considerably, lymphocytes and eosinophils taking their place. Otherwise the loss of the spleen seemed immaterial.

102. **Hyperthyroidism in Tuberculosis.**—Brandenstein states that of seventy men and thirty women with pronounced pulmonary tuberculosis (Hamburg), only 21 per cent. were free from symptoms on the part of the heart. All the patients

were nervous and excitable and such a large proportion exhibited symptoms suggesting hyperthyroidism that a casual coincidence is out of the question. The thyroid was enlarged in many cases in the first stages of tuberculosis. Another feature emphasized is the similarity of the injurious action of tuberculous toxins and the thyroid toxin. A history of diphtheria, syphilis or other infection is often found leading up to exophthalmic goiter, and it seems plausible that tuberculosis might have a similar effect on the thyroid. This would explain the heart and nerve symptoms as due to hyperthyroidism as the tuberculosis progresses. It is even possible that tuberculosis might start the hyperthyroidism and then the tuberculous process might heal while the hyperthyroidism be left installed, like a post-infectious nephritis. The blood-picture which has been assumed to be characteristic of tuberculosis may be merely a sign that the organism has been contending with some infection and has not yet regained its balance.

106. **General Anesthesia by Electricity.**—Nagelschmidt claims that he has modified the alternating electric current in such a way that it affects the central nervous system like Leduc's interrupted current, only more powerfully and under better control. He was thus able to throw dogs and rabbits into a deep sleep and arouse them at will by pushing a button, and the animals were lively afterward. The current could be increased until animation was entirely suspended, both heart action and respiration arrested, and twice the rabbit seemed to be dead, but reapplication of the current revived the animals while the controls left untreated were really dead. The method is not ready for the clinic but already it affords a means for physiologic research under more exact control and dosage than have been possible hitherto. [The lay press has already heralded the method as a "cure for insomnia—electric sleep turned on and off at will," but Nagelschmidt makes no such claims.] The current is transformed by a small device which, it is said, can be screwed on any multostat.

Centralblatt für die Grenzgebiete der Med. und Chir., Jena

XV, No. 6, pp. 515-638. Last indexed Sept. 21, p. 974

107 *Pseudotumor of the Brain. (Pseudotumor cerebri.) R. W. Finkelnburg.
108 *Gastric Sarcoma. (Magensarkom.) O. Hesse.

107. **Pseudotumor of the Brain.**—Finkelnburg analyzes twenty-four articles that have been published on the affection which resembles the clinical picture of a tumor in the brain, and yet it runs an entirely different course. After causing symptoms of pressure on the brain and disturbances suggesting a focus, it subsides spontaneously or under mercury or iodids, and may disappear without leaving a trace or some permanent injury may be installed. The symptoms varied as the cortex, base of the skull, occiput or hemisphere of the brain was involved. He summarizes the cases on record under these headings, and tabulates the details of thirty-one cases which terminated in recovery; blindness was entailed in four cases and there was some atrophy of the optic nerve in seven and left deafness in one. In five cases the patients died immediately after trephining and four after lumbar puncture and three died not operated on. The duration in the fatal cases had been from over three weeks to fifteen months. In the cases with a favorable outcome the duration had been from three weeks to over two years. The affection had long lulls in some cases with entire freedom from all symptoms for years and even decades. Then the whole train of symptoms may develop and last for months or disappear anew without leaving a trace. In one of Higier's cases the first attack of severe brain symptoms and choked disk occurred at the age of 6 and lasted for nine months, when it entirely subsided; after an interval of thirteen years it flared up anew and lasted for ten months. There has been no recurrence during the three years since. No benefit was observed from mercury, iodid or mixed treatment except in a very few cases, and no essential improvement followed lumbar puncture. Treatment must be along the lines for brain tumors in general, as the outcome seems to be the only clinical difference between the true and the false tumor. Especial attention should be paid to warding off optic atrophy.

108. **Sarcoma of the Stomach.**—Hesse sifts the literature on this subject, listing alphabetically 233 authors and devoting fifteen pages to tabulation of the different cases. Only about 1 per cent. of gastric tumors are sarcoma, and a fifth of them develop at the pylorus, a fourth at the greater curvature. The sexes are equally affected; about 25 per cent. of the patients were under 30. The mortality after resection was 31 per cent. Only four cases are known of permanent cures after three to eight years, but on the whole the prognosis is by no means less favorable than cancer, and spontaneous partial retrogression has been known in some cases. Arsenic should be given to promote this, and with inoperable tumors or after resection the Roentgen rays and radium should be applied. In nineteen cases the gastric sarcoma was a metastasis. In eighteen others of the 181 tabulated the diagnosis was probable but not certain.

Correspondenz-Blatt für Schweizer Aerzte, Basel

September 20, XLII, No. 27, pp. 1001-1048

109 Practical Importance of Roentgenoscopy in Gastro-Intestinal Disease. F. de Quervain.
110 Psycho-Analysis. F. Riklin.
111 Diathermy. G. Herzer.

October 1, No. 28, pp. 1049-1096

112 Milky Ascites and Chylothorax. (Chylascites und Chylothorax.) W. Loffler.
113 Cancer of the Bladder; Four Cases. (Zur operativen Behandlung des Blasenkrebses.) Häberlin.

Deutsche medizinische Wochenschrift, Berlin

September 26, XXXVIII, No. 39, pp. 1817-1864

114 *Tinnitus. (Prognose und Behandlung der Ohrgeräusche). K. Wittmaack.
115 Action of Preparations of Mercury on Spirochetes. (Zur Toxikologie und Pharmakologie einiger Quecksilberverbindungen.) J. Abelin.
116 Hemoglobinophil Bacteria. R. Scheller.
117 Occurrence of Dysentery Bacillus in Nature. (Vorkommen von Bakterien der Ruhrgruppe—Typus Y—in der Aussenwelt.) T. Messerschmidt.
118 Serodiagnosis of Syphilis. (Ueber hämolysehemmende Erscheinungen bei luetischen Sera und über die Möglichkeit ihrer Ausnützung für eine Serodiagnostik bei Syphilis.) M Popoff.
119 Operations for Cataract. (Staroperationen.) G. Levinsohn.
120 *Hunger in Infants. (Hunger im Säuglingsalter und Ernährungstechnik.) I. Rosenstern.
121 Ionization in Therapeutics. (Zur Technik der Anionen Behandlung.) P. Steffens.
122 *Suggestion for Improving Metric Notation Prescriptions (Vorschlag zur Verbesserung der Gewichtsbezeichnungen auf Rezepten.) E. Harnack.

114. **Noises in the Ear.**—Wittmaack comments on the necessity for determining the cause of the tinnitus for effectual treatment. It frequently happens that the measures applied especially such as influence the circulation in the internal ear aggravate the tinnitus, and measures directly opposite may prove effectual. When the noise is heard rhythmic with the pulse, the hearing intact, the sound is generally the perception of some arterial murmur at some point in the body. Treatment of the circulatory tinnitus should be primarily addressed to the cardiovascular apparatus or the blood in general. Neurasthenic noises require entirely different measures. He has found it useful to divert the patient's attention by a rushing brook or a loud ticking clock or other mechanical device to overtone the neurasthenic tinnitus. The outlook is bad when these two forms of tinnitus are combined. With organic disease of the ear, sedatives, bromids and valerian may prove useful; they are most effectual in the neurasthenic tinnitus and that due to changes in the nerve terminals. In the latter case potassium iodid, systematic sweats, arsenic or thyroid treatment may have a favorable action. Measures to divert the blood by hot foot-baths and sitz baths or to induce a hyperemic reaction by massage, superheated air, electric measures, etc., sometimes prove effectual symptomatic measures, as also lumbar puncture. In extreme cases operative destruction of the labyrinth may be considered. It should always be borne in mind that a number of factors may cooperate in the tinnitus.

120. **Hunger in Infants.**—Rosenstern writes from Finkelstein's service to warn that modern methods of infant feeding are liable to do harm by letting the child suffer from hunger, when for any reason it does not get its proper proportion of food, either from dropping to sleep at once after it has taken a few swallows, possibly two ounces, or from the infant's

attention being diverted and it stops to play and takes a long time to get the necessary amount. Even when the infant is healthy and digesting well, it is seen to be losing weight, and an immediate increase in the amount of the food is demanded. How to accomplish this is quite a question in institutions; one way is to shorten the intervals between feedings, striving constantly to return as early as possible to the usual five feedings a day. This was always accomplished in the service in two or three weeks or six weeks at latest. Fully 50 per cent. of the infants in the service showed this tendency to insufficient nourishment, for which the child and not the nursing mother was responsible. A further aid in such cases is to give five drops twice a day of pepsin. The mother's milk is drawn after each feeding, when the child has not emptied the breast, and it is fed to the child. The same principles apply to bottle feeding and to children suffering from some transient infection. Restriction of the nourishment still further, as is so frequently done, may have the most serious results when the child is already undernourished. He has found it useful to give a more concentrated food, supplying fluids by rectal injection or subcutaneous infusion in case of diarrhea. Hydrocephalus enhances the difficulty of the more concentrated feeding, but he thinks this is due more to the accompanying spasmophilia inducing direct esophagism. A minor point which he has found worthy of attention is the necessity for letting the child sit up and belch the air it has taken in during nursing. Often when the child has been sitting up and has belched once or twice, it will resume peaceful feeding. In institutions the infants may be set up in the corner of the crib until they have thus expelled the air.

122. **Improved Metric Notation for Prescriptions.**—Harnack would like to have the decimal point absolutely prohibited and the weights given in whole figures and the divisions in common fractions, each figure to be preceded by a capital G (gram) or M (milligram), for example, G 5; M 5; M ½. These two letters differ so widely that they could never be confounded, and he thinks this method would do away with a great deal of uncertainty and danger. He gives some specimen prescriptions to show the advantages of the proposed method. He says that when it is a question of money, on cheques, drafts, receipts, etc., the sum of money is written out as well as given in figures, to prevent possible mistakes, but when it is merely a question of the most priceless possession, health, no one takes the trouble to write out the amount. [Commenting on Harnack's statements the suggestion is made by an eminent American chemist that the decimal system should be retained but the amount should be read as we read money. Just as we write $1.87 and read it one dollar and eighty-seven cents; so we should write 1.025 gm. and read it as one gram and twenty-five milligrams. Writing it out thus would do away with all possibility of error.]

Medizinische Klinik, Berlin

September 22, VIII, No. 38, pp. 1531-1568

123 Juvenile Paralysis. O. Klieneberger.
124 Technic for Taking Temperature in Axilla. (Thermometerhaltung in der Achselhöhle.) W. Kausch.
125 Gastro-Intestinal Hemorrhage as Symptom of Internal Disease. J. Meinertz. Commenced in No. 37. See ab. 145, p. 1582.
126 Small Abdomen Predisposes to Leanness; Large, to Obesity. (Bauchgrösse und Ernährungszustand.) v. Sohlern, Jr.
127 Precipitin Serodiagnosis of Syphilis. (Serodiagnose der Lues mittels der Ausflockung.) H. Schmidt.

September 29, No. 39, pp. 1569-1610

128 Trauma as Factor in Cardiovascular Disease. (Herz- und Gefässkrankheiten und Unfall.) A. Hoffmann.
129 Treatment of Fracture to Retain Function. (Funktionelle Behandlung von Knochenbrüchen.) A. Bum.
130 The Memory. (Das Gedächtnis.) W. Morgenthaler. Commenced in No. 38.
131 Serotherapy in Pneumonia. (Zur intravenösen Anwendung des Römerschen Pneumokokkenserums bei croupöser Pneumonie.) H. Dorendorf.
132 Treatment of Cardiovascular Derangement with Differential Pressure. (Behandlung von Herzschwäche und Kreislaufstörungen mit Unterdruckatmung vermittels der Lungensaugmaske.) E. Kuhn.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

September, XXXVI, No. 3, pp. 271-392

133 *Influence of Age of Mother on Sex of Child. (Einfluss des Alters der Mutter auf das Geschlecht des Kindes.) F. Ahlfeld.
134 Topography of the Umbilicus in Women and Infants. (Zur Topographie des Nabels.) N. Kakuschkin.
135 Legal Aspect of Instrumental Perforation of Uterus by Physician. (Die gerichtsärztliche Beurteilung instrumenteller, durch Aerzte bewirkter Uterusperforationen.) G. Puppe.
136 *Treatment of Uterine Hemorrhage and Hypersecretion at or Near the Menopause. (Zur Behandlung der klimakterischen und präklimakterischen Blutungen und Hypersekretionen.) R. Wanner.
137 Fatal Laceration of the Tentorium in Infants. (Intrakranielle Blutungen infolge Tentoriumzerreissung als Todesursache bei Neugeborenen und Säuglingen.) W. Benthin.
138 Cancerous Degeneration of Uterine Myomas. W. Hertel.
139 Simulated Roentgen-Ray Burn. (Eine hysterische "Röntgenverbrennung.") G. Hirsch.

133. **Influence of Mother's Age on the Sex of the Child.**—Ahlfeld concludes from the study of several thousand cases that the age of the mother has a decided influence on the sex of the child; that primiparæ over 30 show a much larger percentage of boys than younger mothers, and those over 40 a still greater proportion. He advises further study of statistics to settle the question.

136. **Treatment of Bleeding and Hypersecretion at the Climacteric.**—For the bleeding and excessive secretion so common at the menopause Wanner recommends treatment with zinc chlorid. He prepares the patient and anesthetizes as for a major operation, dilates, obtains scrapings of cervix and uterine mucosa for microscopic examination, and checks bleeding with a gauze tampon. He then moistens a strip of sterile gauze with 50 per cent. zinc chlorid solution and after removal of the tampon packs it well up into the fundus of the uterus and around the cervix; after twenty-four hours in bed he removes it and gives a potassium permanganate douche. From the seventh to the tenth day the slough separates and can be removed with dressing forceps. At first he was afraid to use so strong a solution and had some failures on account of not getting complete erosion. There was danger of infection of the residue. Now he has uniform success and says there is no danger in the use of a 50 per cent. solution.

Münchener medizinische Wochenschrift

September 24, LIX, No. 39, pp. 2089-2144

140 Experimental Syphilis of the Eye. J. Igersheimer.
141 *Intracutaneous Tuberculin Reaction as Aid in Test Inoculation of Animals. P. Esch.
142 *Technic for Taking Temperature in Child's Rectum. P. Tachau.
143 Chorea from Inherited Syphilis. G. Flatau.
144 Action of Modified Carbonated Baths on the Heart. (Beeinflussung des Reizleitungssystems des Herzens durch das natürliche Kohlensäurebad mit indirekter Abkühlung.) L. Nenadovics.
145 Tabes Alleged to Be Curable by Antisyphilitic Treatment Kept Up Long Enough. (Günstige Beeinflussung der Tabes dorsalis durch Salvarsan.) Leredde. Commenced in No. 38.
146 Progress in Treatment of Infantile Paralysis. (Fortschritte in der chirurgisch-orthopädischen Behandlung der spinalen und zerebralen Kinderlähmung.) B. Baisch.

141. **Improved Technic for Diagnostic Inoculation of Animals.**—Esch gives minute directions for hastening and rendering more certain the results of experimental inoculation of guinea-pigs from patients suspected of tuberculosis. The suspected fluid is injected into the peritoneum or subcutaneously, or if the fluid is limpid it can be injected into the heart or a vein. He always inoculated two animals and then applied the intracutaneous tuberculin test every three days, beginning nine days after the inoculation. The response to the intradermal test speedily reveals whether the inoculation is giving a positive or negative reaction. If the reaction is positive the animal is killed and examined, as also, if negative, at the end of six weeks.

142. **Rectal Temperature of Children.**—Tachau has been systematically investigating the temperature of children at different depths in the rectum and has found that there is wide divergence between the temperature obtained at a distance of 3, 5, or more cm. from the anus. The difference amounted to 0.1 up to 0.7 degrees C. in his 300 tests on thirty children, and this explains the conflicting findings. The thermometer should always be introduced as deep as possible and always to the same depth.

Virchows Archiv, Berlin

September, CCIX, No. 3, pp. 321-476

147 Anatomic Findings with Gunshot Wounds of the Skull. (Schädelschüsse.) F. Heine. Commenced in No. 2.
148 The Hypophysis Cerebri with Hydrocephalus. (Verhalten des Hirnanhangs bei chronischem Hydrocephalus und Ursprung der Pigmentgranulationen in der Neurohypophyse.) Stumpf.
149 Multiple Endotheliomas of the Blood Capillaries. B. Müller.
150 Parenchymatous Carcinoma of the Liver. V. Mirolubow.

151 Lymphogranulomatosis of the Skin. G. Arndt.
152 Case of Kala-Azar. N. W. Petrow.
153 Emigration of Leukocytes, Especially in Pneumonia. H. Ribbert.
154 Amyloid of the Lung. P. Kschischo.
155 Rare Deformity of Heart. (Seltene Herzmissbildung bei Situs inversus abdominis.) W. Knape.

Wiener klinische Wochenschrift, Vienna

September 26, XXV, No. 39, pp. 1437-1472

156 *Melena Neonatorum. L. Unger.
157 *Serodiagnosis of Pregnancy. (Serologische Schwangerschaftsdiagnostik.) R. Franz and A. Jarisch.
158 Physical Measures in Treatment of Emphysema of the Lung. J. v. Benczur.
159 Roentgenoscopy with Chronic Disease of the Large Intestine. G. Schwartz and Novascinsky.
160 *Blood-Picture with Goiter. (Blutbild bei Struma and Morbus Basedowi.) J. Hatiegan.

156. **Melena Neonatorum.**—Unger reports nine cases of this grave affection; only one of the infants died notwithstanding the enormous losses of blood. One child recovered without medication; prompt recovery in three cases followed a single injection of 2 c.c. of the mother's serum, while injection of gelatin and gelatin by the mouth and rectum displayed little if any effect. One infant recovered after one injection of 5 c.c. of a 2 per cent. solution of gelatin; another after six such injections in three days, and another after repeated administration of gelatin by every route plus an injection of horse-serum; another recovered after an injection of gelatin and calcium chloratum by the mouth. In the fatal case treatment had been by gelatin and ergot by the mouth.

157. **Serodiagnosis of Pregnancy.**—Franz and Jarisch state that the antitrypsin test is reliable and by far the simplest means to reveal the presence of the protective ferments found in the serum of pregnant women. The trypsin-digesting power of fourteen healthy men and non-pregnant women tested was 0.4 or 0.5, but in twenty-six pregnant women the index was 0.7 up to 0.9 and in eighteen parturients it was 0.8 or 0.9, returning to normal by about the sixteenth day. In nine cases of cancer the index was likewise exceptionally high, reaching 1.4 in a case of chorio-epithelioma. The Abderhalden and Rosenthal technics were both found reliable but the latter is incomparably simpler. (See Abstract 173 in these columns recently, p. 1414.)

160. **The Blood-Picture with Goiter.**—Hatiegan announces that he found in about half his thirty-five cases of simple goiter the lymphocyte blood-picture which has been assumed to be characteristic of exophthalmic goiter.

Zeitschrift für Kinderheilkunde, Berlin

IV, No. 6, pp. 451-564. Last indexed Oct. 5, p. 1233

161 *Diphtheria. E. Seligmann and E. Schloss.
162 *Underfeeding During First Two Weeks. (Bedeutung der Unterernährung in der ersten Lebenzeit.) A. v. Reuss.
163 Origin of Albumin in Infant's Urine. (Herkunft des Harneiweisses bei Albuminurien der Säuglinge.) N. Krasnogorski.
164 Experimental Research on Action of Small Doses of Volatile Fat Acids on Elimination of Nitrogen, Ash and Calcium in the Stools. (Pathogenese der Verdauungsstörungen im Säuglingsalter. VI.) H. Behrdt and K. Bamberg.
165 *Heart-Block. A. F. Hecht.
166 Hereditary Brachydactylia. J. Drey.
167 Negative Experimental Research on Transmission of Morphin to Fetus and Suckling. A. Reiche.

September 10, V, No. 1, pp. 1-84

168 *Water Requirement of Infant. (Wasserbedarf des Säuglings.) L. F. Meyer.
169 Physiologic Motor Restlessness in Ocular and Facial Nerves in the Newly Born. (Eine bes. Form motorischer Reizzustände bei Neugeborenen—sog. Stäupchen.) W. Zipperling.
170 Influence of Calcium on Cartilage in vitro. (Einfluss des Calciums auf die Knorpelquellung.) H. Wolff.
171 Defects in Tympanic Membrane in Children. (Ursachen des Offenbleibens und Vernarbens von Trommelfellücken im Kindesalter.) B. Gomperz.
172 Paralytic Equivalents for Epilepsy in Children. R. Neurath.
173 Experimental Research on Sensitization Against Casein of Cow's Milk. K. Kassowitz.

161. **Epidemiology and Treatment of Diphtheria.**—Seligmann and Schloss describe a series of epidemics in the schools of Berlin showing the importance of isolating bacillus carriers, even though they may have no symptoms of the disease. All children in schools where there are cases of diphtheria should be examined and not be allowed to return to school until throat and nose are free of bacteria. Bacteria may persist for two months but seldom longer than a month in healthy children. Physicians should examine bacteriologically other members of the family in cases of diphtheria. In institutions all infants with coryza should be examined. In infant asylums, they do not advise the giving of prophylactic injections of antitoxin because of the dangers of inducing anaphylaxis. In severe cases they give the antitoxin intravenously and it acts with remarkable rapidity.

162. **Insufficient Nourishment During the First Two Weeks.**—Many infants who are thought to be insufficiently nourished do not need food, but water. If on account of difficulty of nursing on the part of the mother or child there is real need of food, breast milk obtained from another mother is the best. Cow's milk should not be given till the middle of the second week; with sufficient fluid a child will not suffer before that time. The slight fever observed so often in the new-born and frequently called inanition fever, generally disappears spontaneously if water is given freely.

165. **Differential Diagnosis of Functional and Organic Heart Block.**—Hecht describes two cases of heart block, one in the course of diphtheria, where there was doubtless an organic lesion of the bundle of His; the other in the course of measles, and here he maintains the heart block was due solely to vagus stimulation. In the first case atropin did not change the ratio between the auricular and ventricular beat, while in the second the heart block disappeared almost entirely under atropin. In the diphtheria case the heart block persisted after four months, while in the other the normal ratio was restored after three weeks.

168. **Amount of Water Required by an Infant.**—Meyer calls attention to the fact that from 66 to 68 per cent. of the infant's weight is water and that in proportion to weight the infant requires four times as much water as the adult. He carried out a series of experiments on infants under three months of age, giving them a diet of concentrated milk with sufficient caloric value, but insufficient water. He gives tables showing the loss of weight in these cases and the gains when water was added; also tables showing the nitrogen metabolism.

Zentralblatt für Chirurgie, Leipsic

September 28, XXXIX, No. 39, pp. 1321-1360

174 Subphrenic Abscess from Masked Perforation of the Stomach. (Gedeckte Magenperforation.) R. Bartz.

Zentralblatt für Gynäkologie, Leipsic

September 28, XXXVI, No. 39, pp. 1265-1296

175 Advantages of Digital Concentric Compression to Correct Obstetric Indentation of the Skull. (Schädeleinbrüche der Neugeborenen.) O. v. Herff.
176 Operative Treatment of Retroversion and Flexion of the Uterus. (Behandlung der Retroversio-flexio uteri durch Verdoppelung der Ligamenta rotunda.) O. Pankow.
177 *Indications for Operative Treatment of Puerperal Pyemia. W. Benthin.

177. **Indications for Operative Treatment of Puerperal Pyemia.**—Benthin reports two cases of severe puerperal pyemia with the streptococcus viridans or other streptococci in the blood and mixed germs in the vaginal secretions. The clinical picture was grave, with chills and continuous or remittent fever. Both women were very anemic and thrombosis developed. The condition was so serious in both cases that they seemed beyond operative relief and treatment was directed solely to keeping up the women's strength, but both recovered. If an operation had been done, the cases would have been hailed as evidence of the value of surgical measures in such cases.

Gazzetta degli Ospedali e delle Cliniche, Milan

September 19, XXXIII, No. 113, pp. 1177-1184

178 Acute Articular Rheumatism Followed by Chorea and Polyserositis in Boy of 6; Recovery with Chronic Heart Lesion. E. Giovannini.

September 22, No. 114, pp. 1185-1200

179 Localization of Speech Center. (Perche l'emisfero cerebrale sinistro ha il privilegio di presiedere alle funzioni del linguaggio.) T. Silvestri.

September 28, No. 117, pp. 1217-1232

180 *Infantile Diarrhea in Epidemiology of Cholera. (La gastro-enterite infantile nella profilassi anticolerica.) M. Gioseffi.

180. **Infantile Diarrhea in Epidemiology of Cholera.**—Gioseffi relates two instances at different places in which the spread of cholera was traced to two infants who had succumbed to what was supposed to be ordinary gastro-enteritis but which proved to be cholera, the germs having been

imported from other towns and the infants in each case being the first to contract the disease. In one case the infant died in the hospital and examination of the other children in the ward revealed cholera germs in a number of others; the entire inmates of the ward and the attendants were at once isolated and further spread of infection in the institution was thus prevented. In the other case the contagion had been brought into the country to the infant by a healthy germ-carrier who had spent a holiday in the city. The cholera of the last few months seems to have been particularly mild, Gioseffi adds in conclusion, no child under the age of 7 succumbing to it and seven of the eleven healthy germ-carriers discovered being less than 7. He queries whether this can be ascribed to reduced virulence of the germs or to increased resisting powers of the organism.

Policlinico, Rome

September 22, XIX, No. 39, pp. 1409-1444

181 Advantages of Ether "Drop" Anesthesia. (Sull'anestesia con l'etere "a goccie" e sulle complicanze polmonari.) G. Dialti.
182 *Artificial Pneumothorax in Treatment of Hemoptysis. G. Finzi.

September 29, No. 40, pp. 1445-1480

183 Exploratory Puncture of Abdomen. L. Panichi.

182. **Artificial Pneumothorax in Treatment of Tendency to Hemoptysis.**—Finzi reports the successful application of an artificial pneumothorax in three patients displaying a threatening tendency to recurring hemoptysis. Forlanini long ago called attention to the value of this measure in hemoptysis, and his assertions have been confirmed by Fontana, Heisler and others. Finzi has had much experience with the artificial pneumothorax in treatment of pulmonary tuberculosis but these are the only cases in which the benefit on the lung process was a secondary consideration.

Riforma Medica, Naples

September 21, XXVIII, No. 38, pp. 1037-1064

184 Pulsation in Pleural Effusion. (Ancora sul determinismo della pulsatilita. delle raccolte pleuriche.) S. Livierato. Commenced in No. 37.
185 Sarcoma of Spermatic Cord Successfully Removed. G. Giordano.
186 Uterine Cysts. M. Dardanelli.

Brazil-Medico, Rio de Janeiro

August 15, XXVI, No. 31, pp. 317-326

187 Copper Salt in Tuberculosis. (Applicação do bi-iodureto de cobre em therapeutica.) A. Fontes.
188 German Measles in Brazil. (Rubeola ou roseola epidemica na Bahia.) G. Moniz. Commenced in No. 30.

September 8, No. 34, pp. 351-360

189 Treatment of Primary Congestion of the Lungs. C. Fraga.

Revista de Medicina y Cirugia, Havana

October 10, XVII, No. 19, pp. 531-556

190 The Rat in History and Its Extermination at Havana. (Guerra contra las ratas.) L. M. Cowley.
191 Uterine Fibroma and Pregnancy. S. V. Castello.

Semana Medica, Buenos Aires

August 22, XIX, No. 34, pp. 349-396

192 *Albuminuric Retinitis. A. J. Manes.
193 Bill for Compulsory Sanitation of Cars. (Proyecto de ley sobre higiene, desinfeccion y profilaxis en los ferrocarriles.) J. Penna.
194 *Ionization by Diathermy. C. Heuser.

August 29, No. 35, pp. 397-448

195 Modified Technic for Operation on Maxillary Sinus. (Modificacion al metodo Caldwell-Luc para el tratamiento de las supuraciones cronicas del seno maxilar.) E. V. Segura.
196 *Influence of Site of Gastric Cancer on Motor Functioning. M. R. Castex and C. B. Udaondo.
197 The Urogenital System in the Animal Series. V. Delfino.

September 5, No. 36, pp. 449-496

198 *Operative Treatment of Conical Cornea. (Keratocone.) A. J. Manes.
199 *Signs of Saturation with Mercury. N. Ragusin.
200 Sporotrichosis of the Mouth. A. Quadri.
201 Notes on Chemistry; Hydrogen. V. Delfino.

192. **Albuminuric Retinitis.**—Manes regards the prognosis of albuminuric retinitis outside of pregnancy as extremely grave. Most of the patients die within two years after the retinitis develops, although some may survive for much longer and may recover entirely if the nephritis can be conquered. The diagnosis requires besides ophthalmoscopic examination, a complete general examination including study of the blood. Treatment should be addressed to the nephritis, possibly restricting patients to milk alone. Drastic purgatives, venesection and lumbar puncture may prove useful adjuvants. High cholesterinemia is a frequent accompaniment of the retinitis and calls for special dietetic measures, possibly skimming the milk. When the retinitis occurs during pregnancy, before incriminating the latter preexisting kidney disease must be excluded and infections or intoxications in the course of the pregnancy liable to bring on nephritis.

194. **Ionization by Means of Diathermy.**—The method known as thermopenetration or diathermy is a high frequency process which causes heat to reach deep into the tissues. Heuser has been applying it to promote local salicylic medication and reports three cases in which, under this ionization by diathermy the processes rapidly subsided. One was of rheumatic origin in a man of 65, one a neuritic sciatica, and one swollen glands in the neck in a child of 5. In the latter case the ionization was done with guaiacol at one electrode and iodin at the other. Under eight applications conditions returned apparently to normal and the child gained ten pounds in a month. The medicinal action is promoted by the heat in the depths of the tissues, but Heuser warns that the procedure is liable to induce severe chronic ulceration if the fluids used are too concentrated.

196. **Influence of Site of Gastric Cancer on Motor Functioning.**—Castex tabulates the details of thirty-six cases of gastric cancer all showing the slight influence of a cancer at the cardia on the motor functioning of the stomach. When located in the lesser curvature, it interferes with the motor functioning if it spreads toward the pylorus, while if it spreads upward toward the fundus, the functional activity and tonicity suffer, as manifested by the disturbances in digestion of a test meal.

198. **Treatment of Conical Cornea.**—Manes turns back a flap of conjunctiva and then burns off the tip of the cone with the actual cautery but without perforating it. The flap of conjunctiva is then sutured to cover the whole of the cauterized surface and the cornea is then punctured at the upper corneoscleral junction. He opens the corneal wound every day with a spatula to enable the corneal wound to heal without any pressure.

199. **Saturation with Mercury.**—Ragusin expatiates on the importance of recognizing when the organism is saturated with mercury so as to keep it at this point or reduce the dosage and not let it pass into the phase of intoxication. Besides the symptoms of saturation which have been called "mercury grippe," gastro-enteritis, diarrhea, gastric distress and stomach or bowel disturbances which yield readily to an oil purge, he has encountered four cases in which the mercury caused symptoms suggesting angina pectoris. In one case the pain was so intense that the patient fainted. The urine showed a little albumin without renal elements; the dyspnea was not very intense and there were no signs on the part of the lungs, but the pulse ran up and the temperature also rose a little. This pseudo angina pectoris was observed twice in the course of treatment in three cases; it followed the fourth, sixth or ninth injection in three cases and the first in one case. The mercury can be recommended without fear of further trouble after waiting two weeks. One might think that this symptom is caused by embolism on account of the sudden onset, but the conditions in which it occurs and its recurrence will exclude this. The stomatitis is preceded by considerable salivation and swelling of the gums. The mercury being eliminated in this way, the intensity of the irritation is naturally dependent on the dose of the drug. Albuminuria also calls for reduction of the dose, but skin manifestations are generally the result of a special idiosyncrasy.

Hospitalstidende, Copenhagen

September 18, LV, No. 38, pp. 1033-1056

202 Automatic Regulation of Circulation. (Kredsløbets Regulering gennem Hjertets Forsyning med venøst Blod.) A. Krogh.
203 Chemistry of Colloids in Immunology. A. A. Meisling.

September 25, No. 39, pp. 1057-1080

204 Red Glass Becomes Permeable to Chemical Rays with Age. (Lidt on Tidens Indflydelse paa rødt Glas.) C. H. Würtzen.
205 The Oatmeal Cure in Diabetes. (Er v. Noordens Havrekur specifik.) H. Abrahamsen.